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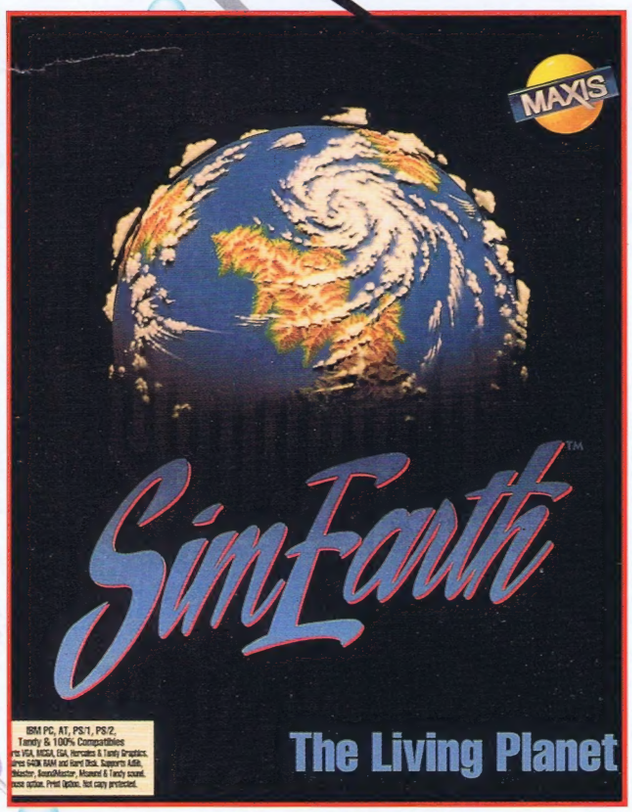

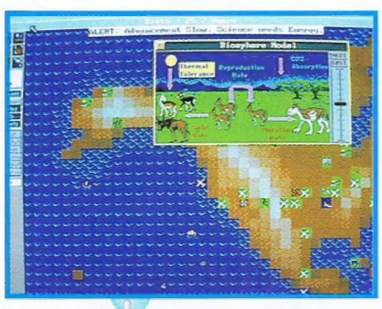

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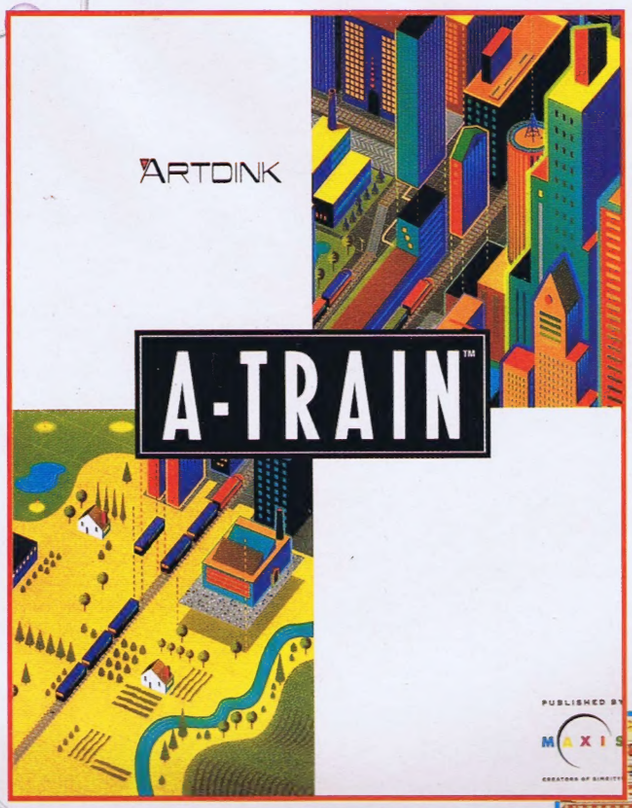

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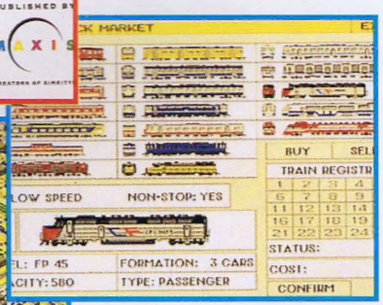

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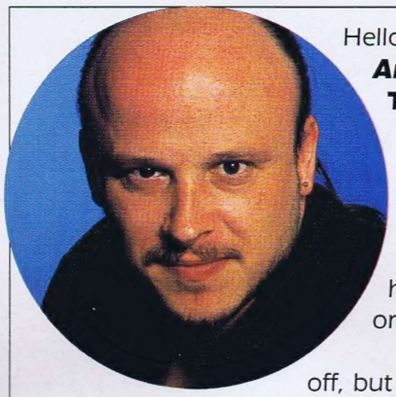

Hello and welcome to this, the second of the ***Amiga Format*** Special Editions, aka **The Annual '93**. Yes, an annual – a chance for us all to sit back, take stock and see how our favourite computer is faring. It's an opportunity for our Amiga experts to give you their honest opinions on what you can look forward to in the coming year, and for all you hardcore Amiga devotees to get a perspective on where the Amiga is at and where it's going.

Well, what a year it's been. The A500 killed off, but still a big favourite among users, and two shiny new Amigas turning up – the budget A600 and the ultra-tasty high-end A4000. We've seen numerous developers launching some amazing new hard and software, much of it taking the Amiga's computing capabilities further than ever before.

Of course, it should have been a tale of failing fortunes for the beleaguered Amiga. What with the recession, the proliferation of low-cost PC-based games packs and the explosion in popularity of Sega and Nintendo video game consoles, the games scene is even more pressurised than ever. Only recently, Amiga manufacturer Commodore announced a powerful 386-based PC games bundle for £699 plus VAT – when you consider that the price includes a S-VGA monitor and a 40Mb hard drive, it begins to look like a serious competitor to the Amiga. On the productivity side there's pressure also. PCs have shot down in price to the point where you can pick up a seriously specified 486-based machine for under the £1,000 mark, while Apple Computer has got its entry-level machines into high-street shops. Even Atari is kicking back with its successor to the STE, the 32-bit Falcon.

And yet the Amiga is still at the top of the heap and still selling big numbers. Just look at ***Amiga Format***'s circulation for an indication of how keen all us Amiga owners are. The number of copies bought monthly has leapt from 115,158 in the first half of 1991 to a staggering 161,256 in the first half of this year, putting it within a whisker of becoming one of the top 50 highest circulating magazines in the country. For a specialist computer publication, that's a quite amazing performance and reflects just how popular the Amiga really is and just how devoted its owners are.

So let's dive in and re-live the high spots of the year as seen by the team of Amiga fans that brings you ***Amiga Format*** every month. Let's take a look at some of the software and hardware that's really impressed us, and consult the experts on where we and our machines have been and where we're headed in the not-too-distant future.

We've had a great time putting this Annual together – as far as I'm aware, this is the first time any monthly computer magazine has actually come up with such a publication – and I hope you have as much deep joy reading it as we had researching and writing it.

Karl Foster
Editor

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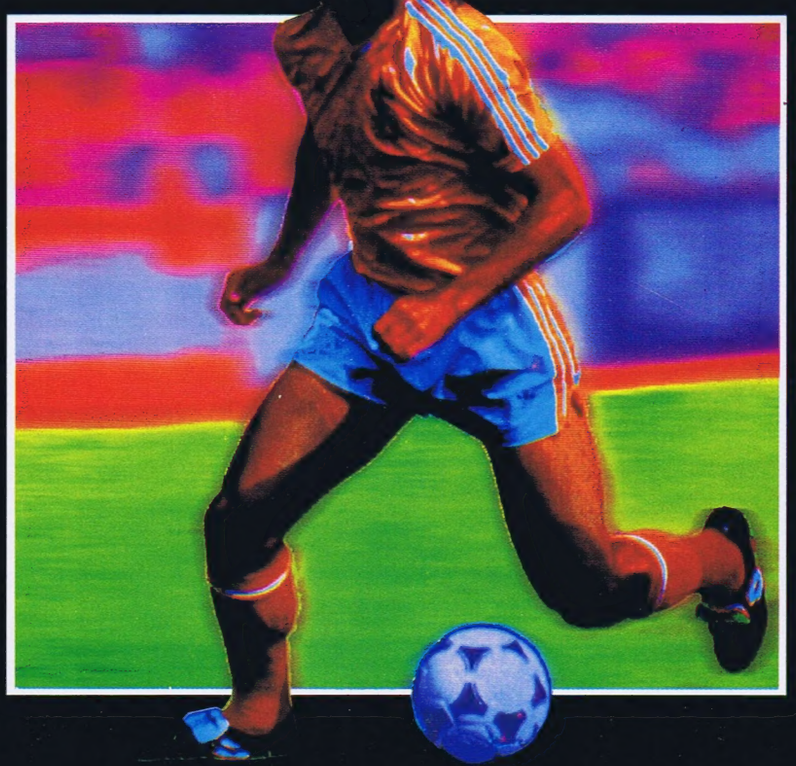
Sensible SOCCER



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1992 Year of the Amiga

Part one: the big picture...

"The Amiga is now the machine to have. I really do believe that next year is going to be the Amiga's year" – **Steve Franklin, then MD of Commodore UK, November 1990**

"There's no doubt in my mind that 1992 will be remembered as the most important year for the Amiga since its launch" – **Kelly Sumner, MD of Commodore UK, October 1992**

We think Kelly Sumner could yet be proven right: certainly it was a big year for the Amiga and here are some of the images that we will remember from 1992.

Ranging from top left to bottom right, we have 1 the A500, which had served us all well for years, but when the axe finally fell we were all looking the other way and hardly noticed that 2 the A500 Plus crept in, bringing 1Mb of chip RAM and Workbench 2 with it. But the upstart had only had a few short months to show off and it too was dispatched by the arrival of 3 the A600 in both hard disk and floppy disk form. Although the A600 offers the same functions in more compact form that its predecessor, it was initially rejected due to the fact that it looked like a piece of cheese and it had no numeric keyboard.

The A600 needed pushing hard and it appeared that the powers-that-be had decided that 4 Steve Franklin, the man who as Commodore UK MD had made the A500 so popular here, was in need of a long rest. Bye bye Steve and hello 5 Kelly Sumner, the man who summed up the years of Thatcher and Major by starting on the factory floor and working his way up to UK MD. Steve moved over to look after 6 CDTV, his task being to make the CD-based Amiga as big as its floppy-based ancestor. Kelly also had to look to new technology to keep the A500 owners happy, and eventually along came 7 the A570 CD-ROM drive.

Things were looking up. Even more so when the once unassailable A3000 PC-lookalike was joined in the battle for top spot in high-end computing by 8 the A4000. And of course, the magazine that covered all of this news first and best was 9 *AMIGA FORMAT*: the biggest-selling Amiga magazine in the world.

THE YEAR IN BRIEF

NOVEMBER '91

The month gets off to a lively start with the **World of Commodore Show**. Following what ***Amiga Format*** called 'the unfortunate collapse' of the rival Computer Entertainment Show (at the last minute, it is closed to the public) the WoC is set to be the biggest computer show this country has ever seen.

WoC is, of course, organised by ***Amiga Format*** so it's bound to be a hit – or at least that's what we hope. Fears that the public might not attend add an edge: tensions are high and so are workloads. Happily for all concerned, it exceeds expectations.

While Damien Noonan stars in live interviews on European satellite TV and Kiss FM radio, the ***Amiga Format*** stand at Earls Court II is the centre of the action. The cream of Amiga journalists from ***Amiga Format*** and its sister titles *Amiga Shopper* (Andy Storer) and *Amiga Power* (Matt Bielby) answer questions, the top games programmers put in appearances. Most vociferous of the lot, however, is freelance writer Mark Smiddy who has strong words to say about Commodore and the non-appearance of a Workbench 2 upgrade. "That man there! He's the one!" Mark is heard to cry at one stage, pointing towards Commodore's stand. "Go and ask him why we can't get Workbench 2 yet!"

● The latest issue of the magazine goes on sale, two days early, at the Show with a big surprise on the cover: a review of a new machine. The A500 Plus has been causing a sensation since we first heard of its arrival in the country two weeks before, when retailers opened boxes that should have contained A500s, only to find a new Amiga inside!

● With the lead-up to the busy Christmas period being traditionally slow on news, the pages of ***Amiga Format***, industry rag *Computer Trade Weekly*, and the people's weekly, *New Computer Express*, are notably short of tittle-tattle. But on the games side, news comes through that *Monkey Island 2* is going to hit Amiga screens early in 1992. Great!

● Digital Dreams releases CDs containing the hit soundtracks from games created by Psygnosis and Gremlin. A year later, a similar disc is a huge hit in Germany, but this one disappears...

● Meanwhile, Blitsoft is announcing a hard/software utility called SYBIL which, the company claims, will enable users to carry out file transfers between Macs, PCs, STs and, of course, Amigas. We have yet to see it.

DECEMBER

The month of the A500 Plus débacle. The A500 is one of those machines, like the Mini motor car, that people thought would never lie down and die. And, to an extent, they were right. It had to be crept

Tim Smith takes a look at the big changes of the year and sees a pattern...

1992, a year of progress

1992, A YEAR OF CHANGES – the A500 into the A500 Plus into the A600. Steve Franklin to Kelly Sumner, Commodore's former retail sales manager, disk drives to PCMCIA slots and into CD drives.

But underlying all these changes was the fact that the Amiga kept going from strength to strength in whichever form Commodore decided to pitch at the public.

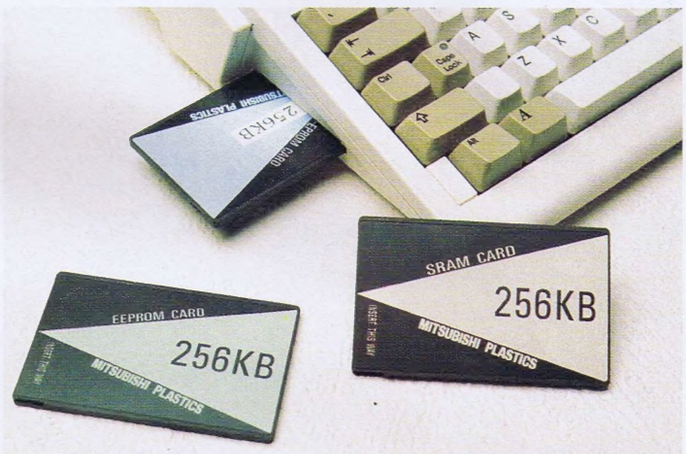
It was a turbulent year, with the various attempts to convince anyone and everyone that Commodore's national repair centre company, FMG, was not in fact in any danger; FMG's demise; various attempts to convince everyone and anyone that FMG's demise wouldn't affect anyone; the arrival of Wang; the news that Wang's parent company in the states has suddenly stopped making money.

It was a communications year as Commodore's new man-in-charge, Kelly Sumner, decided to open up to the press (and thereby the public) on a regular basis. Strange then that just a few days after the first press conference in the new regime, the price of the A600 was cut by £100 when most of the journalists present had come away with the opinion that this would not happen for another two months.

It was a combative year with attacks from two sides. The first onslaught came from the Japanese console makers. Apparently the UK was ripe for attack.

Sega decided to support the European Football Championships (but Graham Taylor didn't). Nintendo decided to support the same AmerItalian plumber that they'd been supporting for years. And people with long memories began talking about 'the console boom of the '80s repeating itself' and whether in two years' time Sega or Nintendo or maybe both would end up like Atari. (Anyone remember what happened to the famous VCS consoles? Anyone know what happened to the Atari ST?)

The second onslaught came from the IBM PC and compatibles which suddenly turned from a dull grey business machine which required you to add cards left right and centre in order to make it produce more than a beep



Possibly the biggest advance of the year, the A600 brought PCMCIA 'credit card' connections, surface-mount technology which made an on-site maintenance warranty possible, a change to IDE hard drives and, eventually, a price cut to £299.

and more than an early-1980's screen resolution into a dull grey *leisure* machine that... you get the idea. Everybody said it was going to be a great success because it was a machine that you could play games on and do serious computing – some of us thought that we'd heard that before about another machine.

> "Underlying all these changes was the simple fact that the Amiga was going from strength to strength in whatever form"

But the Amiga fought off all comers. Sure it changed its guise a few times: first from the straightforward 512k 1.3-equipped A500 that we have known and loved for these past six years, almost overnight, and definitely over the heads of many Cartoon Classics buyers, metamorphosing into the A500 Plus.

Dealers and consumers were up in arms. How could they do this to 'our machine' without telling us first? Would the foundations of Amigadom withstand the tremors – more from the bottom lips of distributors peeved about being left out than from those lucky punters who, on opening their Cartoon Classics box realised they had the Plus – that this move brought about? Would Commodore be able to withstand the PR that emerged from what looked like the worst communication foul-up since it was decided that those Turkish cannon didn't look so bad really, and that the Valley of Death was mis-named?

We never really got the chance to find out because the A500 Plus lasted but a fleeting moment, only to be replaced by the A600. The row that had started with the A500Plus was only to escalate.

Rumours of new machines had been circulating widely for months but it was still quite a shock when the A600 went on sale, the first news coming from a wire release by Commodore Belgium. Suddenly we had a new machine and a whole bunch of new ideas to deal with – SMT, PCMCIA and IDE.

And meanwhile, in the background, the CDTV was growing from an ugly duckling into a slightly less ugly goose, as the Multimedia pack, complete with keyboard and disk drive, appeared across Europe.

Exciting stuff indeed. But there's more to come...

Plus the shock factor

So how was it that a new Amiga 500 arrived with no-one knowing about it?

SOME SAY IT began in October, others are convinced November was the beginning of the saga that was to stun the Amiga community.

Whenever it began, the biggest, most obviously important piece of news for years, on all our minds last Christmas, was the fact that Amiga 500 Pluses had slipped into the UK.

These new machines came with 1Mb of RAM, the new Enhanced Chip Set and Workbench 2 first (and last) appeared under the guise of the Cartoon Classics bundle. And boy did it create a furore among dealers and consumers alike.

Amiga owners and buyers split into two camps. The improved spec made the Plus desirable for some, especially those who felt ripped off because they had just bought a plain A500. But software incompatibility problems made it a machine to be avoided by others, especially those who'd just bought one when they were expecting to get a normal A500.

But one question was widespread. How come the first way anyone knew about the machine was when it turned up in boxes at the dealers' premises?

Various stories did the rounds concerning the influx of new machines:

a) The Cock-Up theory: Commodore had made a vast mistake and had released the machines too early because of a massive internal-communications cock-up.

b) The Conspiracy theory: Commodore had decided to sneak the machines in rather than making a song-and-dance about them because they knew of incompatibility problems with games software.

c) The It-was-the-USA-that-made-us theory: Commodore HQ in the States had given Commodore UK no option: 'Ship them or ship out'.

d) The Good Guys Theory: Commodore decided that these machines were just too good to waste and that the British public simply had to have them now.

All these theories were bandied around, some in print, some in bars around the country where Amiga journalists met and wandered. But the one that finally made it into the headlines was as follows: the A500 Plus was due for official release sometime early in the New Year.

> "All of a sudden the A500 Plus turned from the machine you hoped to get into one that would not play your favourite game"

But, because the Amiga was selling so well, Commodore had badly underestimated stocks for the lead-up to Christmas. With the critical commercial date approaching, the company decided that it had to get machines from anywhere because the shops had to be stocked. To this end, it accepted delivery of A500s from all over the world, and in one of the these shipments were "only two or three thousand" Pluses. Once in the UK, the machines were bundled in Cartoon Classics bundles and sent to dealers.

The passions stirred up by the 500 Plus were more to do with the press and dealers feeling slightly miffed that they had not been told beforehand about the changes than from the buying public. That is until news that certain pieces of software, most notoriously games, would not be compatible with the new machine.

All of a sudden the A500 Plus changed from being the machine that you hoped that you would find in your Cartoon Classics bundle into the one that might or might not play your favourite game. It could have destroyed Christmas sales of the Amiga 500 altogether.

Developers complained that they had not had the chance to test games on the new machines. Commodore explained that it had not known that the Pluses would turn up when they did. Unhappy A500 Plus owners complained that they had been sold a dud.

This was going on at a time when Commodore must surely have been aware that the A600 would be in the shops shortly after Christmas. Was it preparing the ground for the A600?

WHAT THEY SAID ABOUT THE PLUS

On the telephone to Commodore, the day we heard from a dealer that he had been delivered a new Amiga Plus instead of the old A500, we asked "what about these new machines, then?"

The reply from Commodore's press officer, Andrew Ball, was "what new machines?"

"New Amiga surprises everyone including Commodore"
Headline in the news pages of the December 1991 issue of AF

"When you have products being flown in, coming by road, coming by sea, you just can't say."
Kelly Sumner, Commodore's Sales Manager, on whether all new machines would be A500 Pluses

"The dealers, who are testing their own software stocks, are claiming failure rates as high as only 5 games in 50 working. Commodore insists that of over 800 titles tested, only 10 would not run."
Amiga Format news report

THE YEAR IN BRIEF

up behind and mugged under cover of darkness around the Christmas period.

As it starts becoming obvious that some software won't run on the new A500 Plus, the dealers are stunned and moaning, the users are unaware (though some of them are lucky enough to get their hands on a machine) and Commodore is doing an excellent impression of a decapitated rooster. The press has a field day.

● In among all the Plus compatibility problems comes a glimpse of a real ray of sunshine. The ever wonderful Great Valley Products (GVP) declares that a super-fast accelerator is to hit the Amiga-using public before too long. Coo! Wonder what it will turn out like...

● Gold Disk announces that version 2.1 of *PageSetter* is to include sideways printing and on-line help.

● Ocean is planning to get *Robocop 3* into the shops in order to hit the Christmas rush (and the top of the Christmas charts). The game has now come and gone, but the film still isn't out.

● Stuart Campbell of *Amiga Power* wins Mirrorsoft's *Cisco Heat* challenge with *Amiga Format*'s Maff Evans coming in a righteous fourth. Little do anyone of us know that the chance of getting our hands on the prizes lies in the hands of a fat, crooked publisher. Mirrorsoft is about to become the victim of Maxwell's rusty hammer. While everyone is preparing to enjoy the Yuletide festivities with predictions for the future, good cheer, booze, too much food and the chance to get away from work for a few days, the Mirror Group catastrophe (unless you are a staunch *Sun* reader) is festering away beneath the waves... as it were.

● Not content with issuing version 2.1 of *PageSetter*, Gold Disk announces version 3 to the market as well. In 1992, a year on, we're still waiting for it.

● This is also the month that sees Domark advertising *Super Space Invaders* with the quotation "This game is so sexy" from a certain C Edgely. Clare Edgely is Domark's public relations representative at the time. Within 'the industry' this passes for humour and a good in-joke, but should it be used as a selling device?

JANUARY

The New Year opens up with thoughts of the Single European Market, general elections, lowered taxes, stupid promises, life changes, England winning the European Championships, new Amigas, a strengthened CDTV marketing thrust, first year exams, final year exams, retirements, *Alien*^{3}, *Batman 2*, Nigel Mansell winning at least one Grand Prix, Neil Kinnock saying something sensible; all is hope, all is optimism, all is fresh-facedness bridled with hang-overness.

THE YEAR IN BRIEF

And *Oh No! More Lemmings* is on the way. Of course, ***Amiga Format*** has already cheered everyone along with an exclusive set of new *Lemmings* levels in the guise of *Christmas Lemmings* in which the little chaps all wore Santa suits and were generally jolly in their suicide, which appeared on the Crimble Cdisk.

● Alongside this, ***Amiga Format*** is also to be seen splattered across the 'better' Sunday supplements and TV adverts. 'Have you seen the light?' asks the adverts. 'Not for weeks since we've been on Christmas and New Year deadlines' screams back the rest of the office.

● To further encourage sales of CDTVs, Commodore cuts the price by £100. Is something going wrong? Is the expected onslaught from Philips with Compact Disc-interactive (CD-i) too worrying for the company? Or has Commodore been planning this one all along? No one is quite sure. But one thing is quite certain, and that is that Philips is going to be steaming into the market with CD-i soon.

COMMERCIAL BREAK: All monthly magazines are put together, printed and on the stands a month before the cover-date. This means that you will not be reading the true good-time New Year stuff from a magazine team until the February issue (one of the most feared issues of the year because it's put together in the first two weeks of December). And now back to the news...

FEBRUARY

It becomes apparent that Ocean's *Robocop 3* package contains more than a game. Lurking inside the box is a protection device that many of us hadn't seen for a long, long, time. The dongle had made a return. This hardware device acts as copy-protection because, unless it is plugged into the Amiga as you attempt to play, the game simply won't run. It seems that the new year has started with the pirates firmly on the defensive. But a twist in the story soon follows...

● News filters through that Mirrorsoft is to be bought by Acclaim, the UK-based Nintendo developer. Other rumours are of a management buy-out, a US buy out, the return of Maxwell and it is all a big joke. But at the end of it all, the staff of Mirrorsoft still have to console themselves that the New Year's Eve redundancies were at least backed up by a decent pension fund... whoops!

● At the time, Mirrorsoft was working on a number of games which it is feared might not see the light of drives. These games include *Legend*, *Lure of the Temptress*, and *Fire and Ice*, all of which are later bought and released by other publishers. Sensible's *Mega-lo-Mania* and Vivid Image's *First Samurai* both suffer because Mirrorsoft collapsed only days after they have gone on sale, wiping out any returns to the developers.

The upstart Amiga, or the saviour of a computing dynasty? Who could tell?

600 reasons to be cheerful?

WITH THE DUST settling on the A500 Plus drama and trauma, and with most people accepting that the A500 was now a dim distant memory, some semblance of calm had settled on the Amiga world.

But this was not to last for long. With sales of the new Amigas holding reasonably firm despite the fuss kicked up about software and hardware incompatibility, no one really expected Commodore to launch to long awaited 600 until late '92.

We already knew that the next entry-level Amiga would have 600 in the name, and we knew this for two very good reasons: first, the Amiga CD-ROM drive had been called the A690 for as long as most people could recall, then was suddenly switched to become the A570; and second Commodore's information base was leaking like a sieve from both sides of the Atlantic.

What no one was really prepared for was the date of the launch. April caught everyone, except Commodore and probably Dixons (one of Commodore's major distributors and always in the know, we would assume) well off guard.

With no new packaging, the new machine slotted into the Cartoon Classics bundle happily, more happily in fact than the Cartoon Classics were now slipping on to the shelves.

One of the major worries, apparently, was the fact that the new machine came without a numeric keypad. This lack of a pad, which most people only used twice in their lives anyway, caused blusters of "this isn't a real Amiga" from all quarters.

> "The lack of a keypad, which most people only used twice in their lives, caused blusters of "This isn't a real Amiga at all!"

But the keyboard slid into insignificance when experienced users went looking for the edge connector. This was going too far. The edge connector was replaced by a very slim slot, a credit card slot – well a PCMCIA slot to be exact.

First impressions were that this would mean an end to all expandability for the Amiga.

A related, but less obvious change, was the fact that the Gary chip – which controls the Input/Output devices – had been replaced by Gayle in order to cope with the demands of the new credit card slot.

Basically what we had here was a games machine. The lack of numeric keyboard, only really used for serious software and the occasional flight sim', the lack of hard drives and RAM expansions, the pared-down size of the machine: all of this pointed towards a games machine, even a console beater. Surely Commodore wouldn't stoop to a short-term gain over long-term potential?

By the middle of the year Commodore's plans for the Amiga seemed to be settled down; keep the packs coming, settle on the A600 as the entry-level machine and get the public looking to the higher level machines – the 1500 and 3000 – as the logical next steps.

GOODBYE CARTOON CLASSICS

The Cartoon Classics bundle which started with the A500 and then, to most people's surprise, the A500 Plus, ran from August 1991 to mid-1992 and followed up on the 'big star' theme of 1990's Batman pack.

Inside the bundle were *The Simpsons – Bart v The Space Mutants*, *Captain Planet and the Planeteers*, and *Lemmings*. This was rather a case of 'two outta three ain't bad', with the two cartoon tie-ins getting 'pretty good' and 'average' ratings. Still, *Lemmings* was a surefire winner, and the bright packaging, inclusion of *Deluxe Paint III*, and a £399 price ensured its success.

HELLO EPIC. HELLO WILD, WEIRD & WICKED

Not one, but now two-and-a-half new A600 packs. Commodore's vision for the 600 is not as a games machine that you can also do some graphics on, but as a rounded home computer: hence the Language Lab element which comes as the 'flip side' of the *Epic* pack).

The choice of games is, once again, a mish-mash. If you wanted gaming style you would have to go for the Wild... pack with its *Push Over*, *Putty*, and *Formula One*. If you wanted an Amiga with a built-in hard disk and a more grown-up feel, the Epic bundle would suit. Prices are £349 and £499 and both are likely to be very popular.

In 1992 it finally became possible to take Amiga CD seriously, as the CDTV was repositioned as a real computer, complete with keyboard and disk drive, and the A570 CD-ROM drive for the A500 went on sale...

CD future arrives

CDTV, COMMODORE DYNAMIC Total Vision; the home entertainment system that you can slip beneath your VCR; the non-computer.

This was the family entertainment unit of the future; mum could get cookery books on CD, dad could get gardening manuals, little Johnny could play *Microcosm* (the CD-only game from Psygnosis) and little Janet could get *My Little Pony* adventures.

The television would be a thing of the past as entire British families gathered around a hot CDTV in order to learn and play. The family that plays together and all that...

It seemed to nearly everyone but Commodore that this was exactly the wrong way to sell CDTV.

But according to Commodore this was what the wonder-machine was all about. It has only emerged recently and, from the mouth of Commodore's UK MD, Kelly Sumner, that this sales pitch had come from the States, and that the British end of the operation was growing more and more aware that the concept would never take off.

Back in early 1992, however, the party line that keyboards encouraged people to think of the machine as a computer, and computers encouraged technophobia, and that technophobia did not sell 'units', was prevalent. It seemed that no one inside the company had bothered to recognise that a magazine like ***Amiga Format*** could sell well over 150,000 issues per month on the strength of a computer. It did not seem to have scratched the cerebral surface that this computer was an Amiga and that the Amiga was the heart of CDTV.

No, the strategy back then was to pretend that CDTV was a glorified CD-cum-VCR and that the soon-to-arrive A690 (or A590 or A570) CD-ROM drive for the Amiga was part of another, computer, dimension. All this was going on with the threat of Philips' CD-i system looming.

Then something wonderful happened. Someone at Commodore UK woke up. "Hold on!", they said,"we've got hundreds of thousands of Amigas out there. The Amiga is the heart of CDTV and it's a well-known name, and it works. Why don't we start to call CDTV 'Amiga CDTV'?" This decision meant that the UK had to break with the US lead and strike out alone – or at least this is what Kelly Sumner would have us believe.

This break occurred at the same time as Philips (the originator of the CD format) decided that the time was right to let rip with the long-awaited CD-i (Compact Disc interactive). Rumours abounded that Philips was to hit Europe with the support of Sony and Matsushita (under its Panasonic name). Some people said that they had even seen Panasonic CD-i machines. And the selling point for CD-i was... well you're better off reading the first paragraph of this piece rather than me repeating myself.

But the re-positioning of CDTV took a further step. Not only did (and does) Commodore wants you to see CDTV as a turbo-nutter Amiga, the company also wants you to trade in your A500 (Plus or otherwise). Things were getting serious. But not serious enough, it would seem, for Commodore to show the true value of CD by releasing the A570 CD-ROM drive for under £250, or launching the A670 (A600 version) at all. We can only hope that both of these come to pass early in 1993...

The naming of the A570

THE SAGA OF the CD-ROM drive was one of the more intriguing stories of the year, pulling two aspects of the Amiga world into sharp relief. The first of these was Commodore UK's control of its own destiny, as distinct from its parent company. The second was the grasp of 'the big picture' held by the computer press.

Having called the drive the A690, Commodore suddenly renamed the unit as the A570.

This is what we at ***Amiga Format*** said of the move: "If Commodore wants A500 owners to buy the CD-ROM drive, it would make sense for it to have a 500-series name-tag: and equally, the fact that the A690 name occurred in the first place gives credence to the theory that there is to be a 600-series machine and peripherals."

Was this another case of Commodore's internal communications getting snarled up and letting the company become caught in the jaws of a derisive press and public? Or are the writers jumping the gun in order to make a story? I think we all know the answer to that one. However it became more and more clear that Commodore was going to unleash a new, compact Amiga on the public before too long.

In fact, Kelly Sumner, when asked about rumours of a new Amiga, said to industry mag *Computer Trade Weekly:* "Let's not get carried away about having 60 million colours and quadraphonic sound. It's a slight improvement on machines already in that area." What could he mean? Would the flagship A500 Plus be joined by a little brother? The wild speculation caused by these brief statements ran riot...

THE YEAR IN BRIEF

● According to Commodore, three million (3,000,000) Amigas have been sold worldwide, with the UK market approaching the 1,000,000 mark.

MARCH

Spring is readying itself to be sprung and with it comes speculation that a number of new Amigas are in the waiting. Pub talk is filled by scoff-scoffing noises as 'industry sources close to Commodore US' are reported to have revealed plans for three new Amigas.

One of these machines is said to be an Amiga 300. This is a to be a compact version of the A500 and a cheap games machine, a console-beater.

Also on the cards according to international news wires is the name A800 – the theory being that the A500 is small and dead, the A1000 is old and rotting, and no mid-range Amiga would be called (Heaven forfend!) by a name as odd as A600. The other machine is supposed to be the A4000. Pah humbug, it'll never happen!

(Hindsight warning! The A300 turned into the A600, although A300 is still stamped on the circuit board. The A4000 was revealed in September 1992... but what of the A800, with its CD-quality sound and 68020 processor?)

● Software house shenanigans are to the fore as Electronic Arts swallows up Millennium (formerly Logotron Entertainment). There is also speculation that Mirrorsoft (remember that?) has in fact been bought out Acclaim.

● On the lighter side, reports seep in about the A690 CD-ROM drive for the A500. Apparently, the new wonder-gadget will enable A500 (and Plus) owners to access all the facilities of CDTV with half the fuss and bother. A few of the more astute Amiga users query why a drive designed for the A500 range should be called the A690, the rest of the world calls them pedantic fools and demands that they get on with real life and stop nit-picking.

● There is also news of a new 386-based bridgeboard for the Amiga. This hardware add-on will enable users to run loads of exciting software such as PC spreadsheets, databases... forget it!

APRIL

Ocean's dongle anti-piracy device seems to have failed as ***Amiga Format*** receives a cracked, dongle-less and still completely playable copy of *Robocop 3* through the post. Ocean maintains that the £35 price of the game had nothing to do with the dongle's development and inclusion in the box. They also decide to call it a day dongle-wise and let someone else have a crack at solving the problem using hardware defenses.

● To further add to the incredible depression that April seemed to be heaping on all of us, Storm software produces *Daily*

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THE YEAR IN BRIEF

Sport Covergirl Poker. This excuse of a game has zero gameplay, badly digitised pictures (you'd be better off reading the out-of-register cheesecake posed pictures in *The Sport* itself). What really is the point of going on, we ask ourselves?

MAY

The first virtual reality film prepares to hit the big screens in the form of *The Lawnmower Man.* We are all prepared for a lack of plot, some cardboard acting, poor timing and the rest of the luggage that comes with movies that rely on special effects and short stories by 'master of horror' Stephen King.

● *Zool* makes its first showing and is acclaimed as one of the best console-style lookalikes ever, though there's still a long way to go until there's a finished game there. Gremlin looks to have started the year in a most excellent way. They have even managed to secure the rights to the classic bad film *Plan 9 From Outer Space.* Undoubtedly the worst film ever made, surely this means the game will be a huge, Mickey-taking extravaganza in the grand tradition.

(Hindsight Warning! It later transpires that, in order to sell games, Gremlin is giving away videos of the film that no one wanted to watch. And the game's a dog.)

● The A600 makes its debut in the pages of this august journal (and sister mag *Amiga Shopper*). We deal in more detail with the machine later in this Special, but suffice to say that many people had been expecting it... but not this soon. With the A500 just cold in its tomb and the A500 Plus only warming to its work, the launch looks at little rushed. Combine this with the fact that May is not normally considered to be a heavy buying period, and you have a rather confusing situation to say the least.

● Compact Disc thinking is supported by announcements from MicroProse, Psygnosis and Mindscape, all of which announce that they are developing for CD format in a more or less serious way this year. For the most part this talk of development actually means to shovel old, floppy-based titles over to Compact Disc format. But Psygnosis certainly does sound serious in its claims that it will be Europe's first true CD-developer, and to substantiate this, has started work on a game called *Microcosm* which is to be loosely based on the *Fantastic Voyage, Inner Space* movie themes of a voyage in the human body.

JUNE

It transpires that Commodore has killed off the A500 Plus, which will no longer be made. People who had been vociferously whinging about the arrival of the 500 Plus and rueing the death of the classic A500 now leap at the chance to start heavy whinging at the A600 and the death of the old classic the A500 Plus.

We want to tell y

What, more secret new Amigas?

The A4000 started off as just a rumour of a new machine with a 68040 processor and the 'double-A' chip set, but became a reality. What next?

INFORMATION LEAKS ARE always exciting. Even if they are normally completely untrue...

This last year has been completely overrun with rumours of new Amigas under development. Slowly, bit by bit, the stories have become more concrete and, eventually, turned into new machines. We now have the A600, the A4000 and the double-A chip set. So what can we expect to happen next?

During the course of the year, the fates of the A500, the A3000 and the A1500/2000 have all been hanging in the balance. The intriguing part is the way some of the rumours have come true, while others have yet to take a concrete form...

Most of the rumours start life as urgent communications on the Amiga-related bulletin boards of the United States, where Amiga research happens. At the start of the year three new machines were being kicked around as possibilities: the A300, A800 and then the A4000. The other topic of discussion has been the next development of the Amiga's custom chip set and what qualities it would bring.

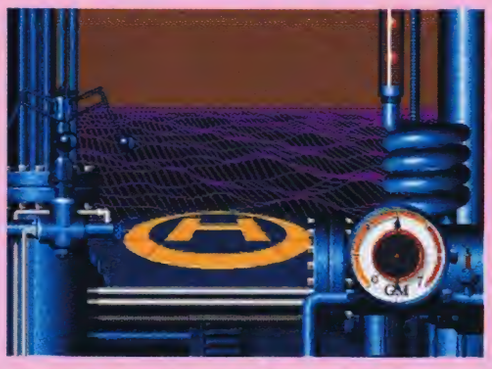
There was a growing expectancy that the Amiga range was in for a severe tweaking in order to keep up with a home market that was being impinged on strongly by the new low-cost Apple Macintoshes, the fall in price of the IBM and compatible PCs. But, as usual, the chaps at Commodore were playing their cards close to their chests.

> "Rumours come true: we now have the A600, the A4000 and the double-A chip set. So what can we expect to happen next?"

First rumour is the A300, a cut-down, very cheap version of the A500 aimed at beating the console market. Word is that it will have a similar spec to the 500 but sell as a console-beater at around £150. Then the A600 arrives and, lo and behold, it's a cut-down machine and has the number A300 etched on the circuit board, though only later is the price dropped and then only to £299. But that's one up to the rumour mill all the same.

The 4000 is a more intriguing option: a 68040-based machine, it will come with Kickstart 2.1 and the new – still secret – AA chipset. This group of processors is the subject that has everyone talking. 256-colour graphics, a 24-bit

TV STARTS TO TAKE GAMES SERIOUSLY



GamesMaster caused a stir and the a wave of interest to pass through the normally wary world of computer gaming as well as the television networks, all of which were looking for new ideas and new directions.

The year is new, rumours and rumblings are shaking the rather conservative foundations of the computer games world. Some heretics are whispering that computer games are taking over from pop music as the 'kids' favourite. Others are saying that television will soon be picking up on this trend.

The world is as yet unaware of a rising young star who goes by the name of Dominik Diamond.

This is all to change before the year end as Channel 4 announces that it will be screening weekly, half-hour games related shows called *GamesMaster.* We are all promised that the show won't be reminiscent of the ancient and disregarded MicroLive.

No, this will be for the kids. It is set inside a deconsecrated East End church, it has stars such as... well it has stars. The series is a raging success, attracting large numbers of viewers, the occasional piece of advertising and causing all the other TV networks to consider running their own games programs.

ou some stories...

palette and 16-bit sampled sound are supposed to be made possible by the new chips.

In an interview with sister magazine *Amiga Shopper*, Kelly Sumner says the following in answer to a question about the AA chipset: "Well, if you think about it, the first chip that we ever released is the 'single A', and then we had the ECS which is the 'A Plus' chipset, if you like, so I suppose a 'double A' wouldn't be out of the question'.

Sure enough, the A4000 arrives with the AA chip set installed, though no advanced sound capability. But the A800 remains just a rumour. Aimed not at the A600 end of the market, but at the 1500 and 2000 machines, it is to be based on a 68030 chip and could even be named the Classic. Kelly Sumner denies all knowledge of a Classic/800 machine.

But is it possible that there is some truth in the whisper that the A2000 has ceased production because a possible replacement is on the way? Can the rumours of games developers seeing the A800 and comparing it with Atari's Falcon be true? All we can say is that Commodore is promising exciting news in '93. Watch this space – something's afoot!

Do telephone rumours, strong denials, marginal denials and a lot of speculation mean the end for the A1500? Or is it all hype?

MULTIMEDIA BIG?

Commodore got behind CDTV in a big way by announcing that it intended to open 12 Multimedia Centres over the next three years – anyone seen one yet?

The centres were set up in order to group together all of Commodore's multimedia equipment in one place for ease of access and are designed to teach business users the idea behind the multimedia concept, which will no doubt pay dividends in the end.

But they also gave rise to a memorable comment from Terry Cooke, Commodore's national sales director talking about multimedia machines other than CDTV: "[it's like] teaching a dog to walk on two legs, because, whilst you can probably do it, the solution takes an awful lot of money and patience."

The big, big, big numbers game

This year	Last year	Title	Freq.	Publisher	Jan-Jun 92	Jan-Jun 91
51	79	AMIGA FORMAT*	M	Future Publishing	161,256	115,158
52	50	Q	M	Emap	161,104	163,607
53	62	WEIGHT WATCHERS MAGAZINE	10PA	GAT Publishing	160,174	140,439
54	48	WOMAN'S JOURNAL	M	IPC Magazines	150,569	172,196
55	55	D TIONS	M	IPC Magazines	150,405	150,067
56	57	EXCHANGE & MART	W	Link House (UCM)	148,048	145,831
57	60	HOUSE & GARDEN	M	Conde Nast	146,546	142,512
58	53	SHOOT	W	IPC Magazines	145,020	156,167
59	61	WHAT CAR?*	M	Haymarket Publishing	144,422	146,650 A91
60	59	BBC WILDLIFE*	M	BBC Magazines	143,668	143,227
61	56	PRACTICAL PARENTING	M	IPC Magazines	142,109	145,551
62	88	GARDEN ANSWERS*	M	Emap	141,727	103,391
63	69	MATCH*	W	Emap	140,667	130,170
64	63	MIZZ	FN	IPC Magazines	137,029	140,334
65	74	YOURS	M	Emap	134,567	121,208
66	84	CHOICE MAGAZINE*	M	Choice Publications (Emap)	132,250	110,313
67	67	CAR*	M	Emap	132,248 J091	137,105
68	49	FAST FORWARD	W	BBC Magazines	129,714	166,291
69	64	SKY MAGAZINE	M	Hachette (UK)	129,055	140,241
70	68	SLIMMER	BM	Magazines International	128,034	132,540
71	65	MOTOR CYCLE NEWS	W	Emap	128,007	139,681
72	75	TIMES EDUCATIONAL SUPP*	W	Times Newspapers	124,618	120,083
73	51	AUTO EXPRESS*	W	United Consumer Mags.	123,474	161,438
74	-	MEAN MACHINES*	M	Emap	122,854	-
75	83	NEW MUSICAL EXPRESS	W	IPC Magazines	116,415	111,503
76	77	WORD SEARCH*	M	BEAP	114,414 A91	116,721 A90
77	91	VOX	M	IPC Magazines	114,213	102,182
78	80	KRISS KROSS*	M	BEAP	113,490 A91	114,631 A90
79	86	MOTHER & BABY	M	Emap	113,225	104,747
80	82	PUZZLE COMPENDIUM*	Q	BEAP	112,559 A91	112,454 A90

It was a year of landmark figures. Not only did *Amiga Format* smash through the 160,000,000-reader mark, but Commodore too came out with a major figure. It announced that 3,000,000 Amigas were in homes throughout the world. Then Philips made it clear that it has produced 10,000,000 computer monitors. A healthy market or what?

But inevitably it was our own sales figures that pleased us the most. We are now outselling well-known magazines like *Q*, *What Car*, *Shoot*, *Sky Magazine*, *NME* and *Vox* to name but a few. So computer mags are for spotty teenagers are they?

All of which goes to make *Amiga Format* not only Britain's best-selling computer magazine, but also the best-selling Amiga magazine in the world and the 51st best-selling magazine in Britain, full stop. What about that?

AND WHAT ABOUT US IN 1992?

1992 was a pretty big year for some of the members of the *Amiga Format* team, too.

This was especially true for both Tim and Marcus, who embarked upon a life of wedded bliss as they married their respective partners. Marcus married Amanda in the luxury of Caribbean sun-spot the Dominican Republic, while Tim and Linda tied the knot in the rain at Bath Registry Office.

Other excitements abounded for Gary, Neil, Pat, Karl and Damien who all moved house at some stage during the course of the year. And, of course, Sue and Nutts both joined the team, Sue moving across from Cardiff and Nutts down from Liverpool.

Maff Evans went to work for a new music magazine, Frank Bartucca left twice, once for America and once because he should never have come back from America. And last, but by no means least, Karl released a CD – his second album.

THE YEAR IN BRIEF

● **Palace Software, which has moved out of the Scala Cinema in London's scenic Kings Cross, starts talking about development for CD-ROM. Little did it know that parent company, Palace Pictures is doing far from thrillingly on the financial stakes and will soon fold.**

● **The word 'Not!' (pronounced Naaaaaat!) begins to crop up in the language. Harry Enfield impressions are becoming unbearable.**

● **Apparently, Commodore is also to introduce the Power Up discount scheme from the United States. This means that owners of Commodore computers become eligible for discounts when upgrading. At first this looks like an excellent deal until it becomes clear that it will only be applicable to people upgrading to the A3000.**

● ***Amiga Format* picks up on the fact the A600's cartridge capabilities could lead to games appearing on credit card sized slips of silicon rather than on disks. This could cut down on piracy, make the up until now useless PCMCIA slots on the machine worthwhile, and even bring the prices of games down. The idea sounds flawless.**

As with all flawless ideas, there is a major flaw: the software houses all want to wait and see whether not the other software houses will go for the idea first. It appears that Commodore had not bothered to place any of the new machines with developers before launching it.

● **Good news for CDTV is that ASDG is to release a version of *Art Department Professional* for CDTV developers. This will support the CDXL standard that enables the machine to run quarter-screen full-motion video.**

● **Also on the way for CDTV (and the A570) is version two of On-Line's *Pyscho Killer*. On-Line's boss Clem Chambers expresses the wish to have the first X-rated CDTV titles in a self-confessed aim for publicity, so sex and violence will be high on the list of priorities for future releases.**

JULY

The A600 receives marketing muscle from an unlikely source: Colin Curly of Quavers fame adds his substantial weight to the cause of the small, cheesey computer. Curly is also to feature in *Push Over* from Ocean.

● ***Amiga Format* unearths the startling news that the 1500 and 2000 are to be replaced. With plans confirmed for new Amigas to appear before the end of 1992, it seems fair to say that the A2000 is for the chop. Rumours of the demise of the A3000 are slightly exaggerated – it was merely a supply problem.**

July is a month feared by computer journalists in the Northern Hemisphere. Nothing happens.

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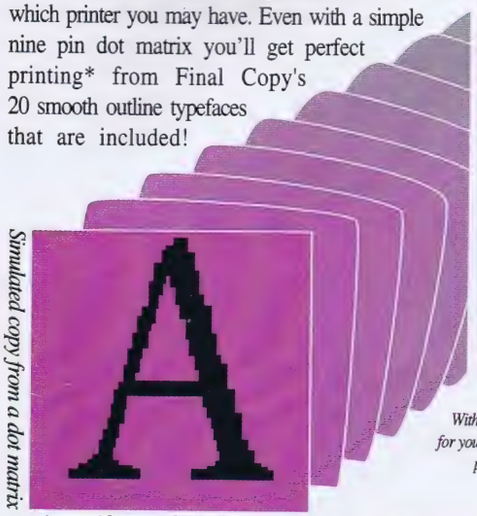

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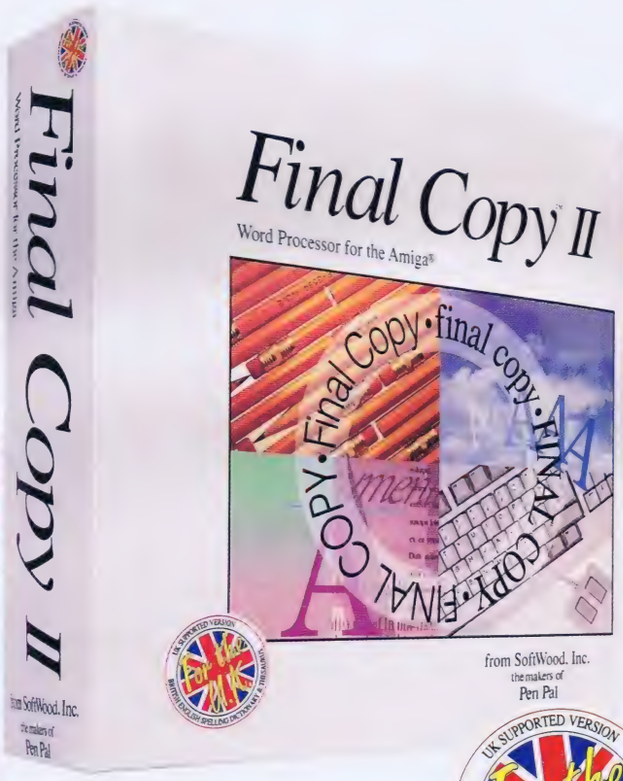

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Final Copy II

Industry and Amiga users combine to prevent the theft and stupidity...

How we tried to stop the pirates

1992 SHOULD HAVE been a watershed year in the fight against software piracy – but it wasn't.

Although many interested parties had voiced bewilderment and anger at the fact that no new legislation was passed in order to counter the threat of the pirates – or 'thieves', as they are increasingly becoming known – the Government and the opposition parties seemed either unaware or unconcerned by the growing drain on the resources of one of the UK's strongest industries.

This apathy is matched only by that which the politicos showed to the rise in software prices and its effect on consumers, which is a direct result of the very same piracy. *Why?*

So, without the legislators to fall back on, we had to look to current laws, the good sense of software users and the initiative used by software houses and software writers.

One such company was Ocean which decided to follow the hardware route with the inclusion of 'dongles' in its packaging for *Robocop 3*. These devices have been used and re-used as possible defences and for the most part they have been seen to fail. Ocean also, inevitably took some criticism for putting the price of games up (*Robocop 3* cost £35 although the Manchester firm maintained that the dongle had no bearing on this price,

Gary Bracey of Ocean tried dongles to foil the software pirates.

and who are we to doubt its word?

Aside from this act of anti-piracy, we were once again treated to the same round of key disks, code wheels and passwords from manuals. Yet still the pirates carried on.

Another attempt to foil the fools was with CATS (Computerised Automatic Tracking of Software), which made its first – and to this writer's knowledge, last – appearance in the news pages. The theory, basically, was that all software could be electronically fingerprinted so that copies made from an individual disks could be traced back to the originator; an innovative, but sadly flawed theory.

Meanwhile, a gentleman in his 20s (the media also picked up on the fact that he was unemployed) and known as 'The Armchair Wizard' was convicted of software piracy and fined several hundred pounds.

Editors all over the country are hoping that FAST (the Federation Against Software Theft) has a good year and forces the government and police to take serious action against the pirates.

If this happens then the software houses will stop barking on about the high cost of software being justified by the amount of illegal disk copying, and the pirates will stop writing absurd letters under stupid pseudonyms trying to justify their actions as revolutionary, freedom-fighting attempts to secure liberty for all sad, spotty little youths who can't get a life.

If FAST is successful, the letters pages of magazines such as ***Amiga Format*** will at long last be freed up for sensible debate. But there is one more big change on the horizon, and that's the change that will come as a result of CDs taking over from floppy disks as the main storage medium.

Financially damaged by the massive amount of piracy on the Amiga, the software houses hate floppies. And now, at last, they have an alternative with CD drives. Just as soon as they can, you can bet that the softies will be turning away from floppies, and CD will bring the final answer to the piracy problem.

GAMES LEGENDS: THE BIZARRE STORY OF PIRACY AND THE SPACE SHUTTLE

Some games come hype, some games come with style, and some are preceded by legends. This year was the story of just such a myth. No one knows where these comes from, no one knows who the evil genius is behind them, but this one is a cracker.

Virgin were to bring out a *Space Shuttle* simulator. A legend arises amongst the hacks (journalists that is) that the copy protection for the game is one of the most original and potentially irritating ever conceived: if you get the type-in code wrong, you won't be told, instead you will have to go through all the pre-flight checks – these could take up to two days.

Discussions occurred as to whether this was actually possible; whether or not some people would actually enjoy this kind of thing, and why on earth people had stared to believe this story after all. There were some other ideas for copy protection of this game, but they are fat too tasteless to print here.

Space Shuttle from Virgin: in the fight against piracy, it was believed that this game would pioneer the most radical copy protection system to date.

THE YEAR IN BRIEF

● *Hook* is promoted by Ocean. The film is on the wrong end of the American reviewers' word processors, but the UK market is looking forward to it. What would the game be like.

● *Jaguar XJ220* asks the question: 'Will you run out before the throttle'. Strange really. *Crazy Cars 3* goes for the negative sell with: 'The Jag's a Drag and You Won't Notice Lotus'.

● 'Bad News for Hedgehogs' declares the advert for *Zool*. What can they mean?

● Happily for all of us, this is the month in which *The Secret of Monkey Island 2: Le Chuck's Revenge* is reviewed and raved over.

● *Sensible Soccer* sneaks in and causes some people to mumble heretically 'As good as, if not better than, *Kick Off*!' A few magazines even review *Epic* none too positively. This is a story that really will run and run.

AUGUST

What a month of rumour, speculation, the occasional bit of news, and the Olympics.

Weighing in is a real story, or rather two real stories: first of all Palace Software. Although it is independent from parent company Palace Pictures/Palace Video, it appears that Palace Software is still liable for debts incurred by the larger concern.

● So where is the good news this month? It comes in the form of a new pack from Commodore. The CDTV is finally released with keyboard, external disk drive, a mouse and Workbench 3.1 disks. This finally puts paid to any suggestions that the path of 'consumer brown goods, put it in the sitting room and granny will love it' marketing that had been weighting the machine down. The pack, known as The Multimedia Home Computer Pack costs £600, that's £100 more than a standalone CDTV.

But off the back of this comes the fact that Amiga owners are offered a trade-in deal by Commodore. The deal hinges on the fact that the A570 is still above £250 (and still not available). So, if you hand in your A500 or Plus, you get to buy a CDTV Multimedia Home Computer Pack for £400 and not £600. Does this mean the death of the A570?

● Looking on at all of this is a new top man at Commodore UK. The solitary, taciturn, Steve Franklin, the man who had come up with the idea of the *Batman* pack that solidified the Amiga's position as the UK's favourite computer, is replaced by the young and thrusting Kelly Sumner.

SEPTEMBER

Kelly Sumner makes the announcement that many users had been fearing but expecting: the A2000 would be terminated in four months' time. Rumours had

THE YEAR IN BRIEF

been emanating from the US that a new machine is to take over from the 2000, and possibly even from the A3000.

● News reports were also beginning to come in from the first major Commodore press conference of the new regime. The main piece of news is that the long awaited A570 (remember when it was called the A690 all those pages ago?) is finally to go on sale but not at the £269 price tag that everyone had been expecting. The price tag for the drive is to be £349.99. This price has a number of people rocking on their heels. But no news is forthcoming about the A670 or whatever the A600's CD-ROM drive will be called.

● *Amiga Format* picks up on a story that has been staring everyone in the face for a few months now: product placement. Games such as *Robocod*, *Pushover*, and any of the film licences you care to mention all have strong advertising links built-in.

As the computer game gradually takes over from the sadly unimaginative, highly derivative and nostalgia based pap that passes for mainstream pop, companies with products to sell have already started to look to the Amiga and Amiga games as excellent devices for selling product to captive audiences. Is this a good or bad idea?

OCTOBER

Oh, well, Commodore goes and drops the price of the A600. Not just snipped, but crucified with a £100 drop. This comes as a shock to readers, writers and the people who have only just gone out and bought an A600 for £400.

(Hindsight Warning! In a later interview, Kelly Sumner does make it clear that since the price cut, A600s have been selling incredibly well – not much solace to the people who had bought them before the price cut.)

● Stuart 'Psycho' Pearce puts his name to a footy-game compilation that doesn't involve a game that features Basil Bolé nutting England's left-back.

● The latest version of the *Kindwords* word processor is released by the Disc Company. But it turns out to have been developed by Digita, the company that created Wordworth.

● *Amiga Format* leads with rumours of what will crop up in the inevitable A600 christmas pack. With no obvious film or TV licences doing the rounds, we pick up on *Myth*, *Zool* and *Epic*.

(Hindsight Warning! We were wrong with* Zool*; wrong and slightly bemused because no matter how you cut it,* Zool *is a better game than either).

● The National Games Championships offers £10,000 for the best games player in the UK – and people still don't believe that computer games can (and should) be taken seriously!?

In the year to come, what amazing news stories can we expect to see?

What of 1993?

THAT'S 1992 WELL wrapped up in terms of news. Of course, more events took place than could be included in this brief round-up.

For the most part, the bulk of this year's news was, when you look back at it, predictable.

We all knew that the 512k, Workbench 1.3-equipped A500 was for the chop; we all knew that CDTV would have to be sold in a radically new way if it was ever going to make any impact; we could all have had a good guess at GVP coming up with great products, with a few software houses folding and a few others going from strength to strength.

But there were a few changes that none of us could have foreseen: Steve Franklin leaving the MD's chair at Commodore was a shock; the A600 was a surprise following so quickly from the A500 Plus; the A570 not coming out at the sub-£200 mark was a let-down, and the fact that television show *GamesMaster* was such a hit was refreshing (especially if you'd been brought up on traditional computer telly fare).

So, what do the news Gurus see happening next year?

> "By the end of the year, in time for Christmas, we'll see the release of a new, CD-driven Amiga with no floppy drive"

Predictions time

CD will be big in 1993, and is set fair to be the main theme, but it won't happen by magic – what Commodore needs is to get a lot of CD-driven Amigas out there first. To this end, the first two obvious points to look for will be a drop in the price of the A570 to nearer the £200 mark that most Amiga users see as predictable and desirable, and the launch of the A670 for the A600 at a similarly low price.

At round about the same time, we would expect to see the launch of *Microcosm*, the CD game from Psygnosis, and this should pave the way for an increasing number of CD-only titles until a big, console-style game like *Zool* becomes available on CD only. We're also likely to see a range of budget CDs appear at about £10 in price.

By the end of the year, in time for Christmas 1993, we'll see the release of a new CD-driven Amiga with no floppy drive as standard and with the double-A chip set.

Earlier in the year will see the final release of the A800, a 68020-based machine with the AA chips, 32-bit architecture throughout and 2Mb of RAM, possibly at a bargain price under £500 to compete with Atari's recent Falcon machine.

We'll see many more PCMCIA expansions, including a PC emulator, the A670, RAM cards, disk drives and eventually we'll start seeing some utilities software on credit card ROM.

Long term, apart from the CD-based machine for Xmas 1993, we'll see true-colour framebuffers built in on the A5000, a new 16-bit sound chip, and FMV as the big moves.

THE SAME OLD STORY

Aghhh, what would the computer industry be without disk shortages? And where would news pages be without this vile classic story? Even if this is much akin to the car industry having a shortage of tyres, or the sporting industry having a shortage of balls, the feeling of depressing inevitability is still the same.

Yes, in 1992 we ran out of disks. We had trouble buying enough to duplicate our 580,000 disks per month for the magazine. Now you can bet that if computers ran on CDs we wouldn't hear this sad story every single year. And doesn't all this make you wonder why the prices of disks are never as low as you think they should be?

Is the Amiga on the move?

One of the most fascinating news stories of the year turned out not to be true. But it may turn out to be true after all. Fancy a portable Amiga, anyone?

Do you recall the story of the Amigas that weren't? Not many people picked up on this story, which is strange because it does show how much interest the Amiga has engendered in third party developers; and not merely on the peripherals side.

Rumours of Amiga portables were being bandied around the press. "About time too", we all said in the pubside editorial meetings. It seems the Model 10 and Model 20 machines were to be shown off or had been shown off in America, and the firm that 'engineered them from the ground up' was ready to put them on sale.

The former was 68000 based, while the latter was to be a 68030 machine. Both of them were said to exhibit all the best characteristics of the normal, run-of-the-mill standalone and deskbound Amigas.

There is, however one major kicker in this story, and this is the fact that neither of the machines were actually made by Commodore. They never appeared, apparently because of legal problems with Commodore in the USA which must surely have taken exception to someone else appropriating Amiga technology.

As such the chances are that they will never see the light of day, which is shame, because portable Amigaing would make great sense. But – and this is a big but – there have consistently been rumours over the last six months that Commodore is working on a portable Amiga of its own. Which would certainly explain the reluctance to let anyone else work on one, and might even explain some aspects of the A600's design (the wedge-shaped case, the IDE hard drive and so forth).

So will we see a portable Amiga in 1993? Well, Commodore isn't saying, but you never know. Check out the 'Amiga in America' pages for another hint...

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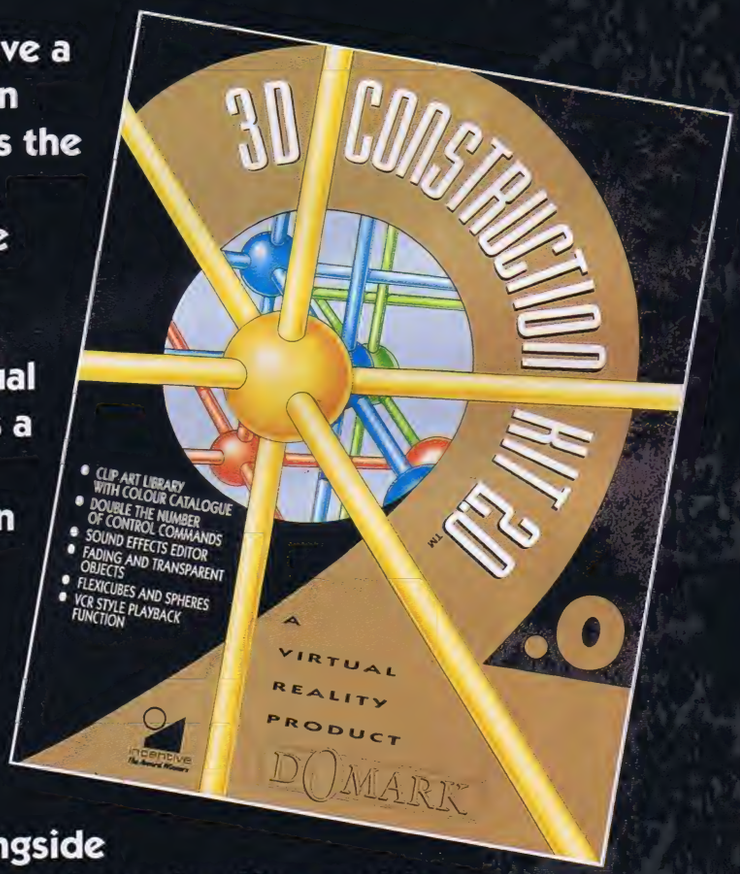

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DOMARK

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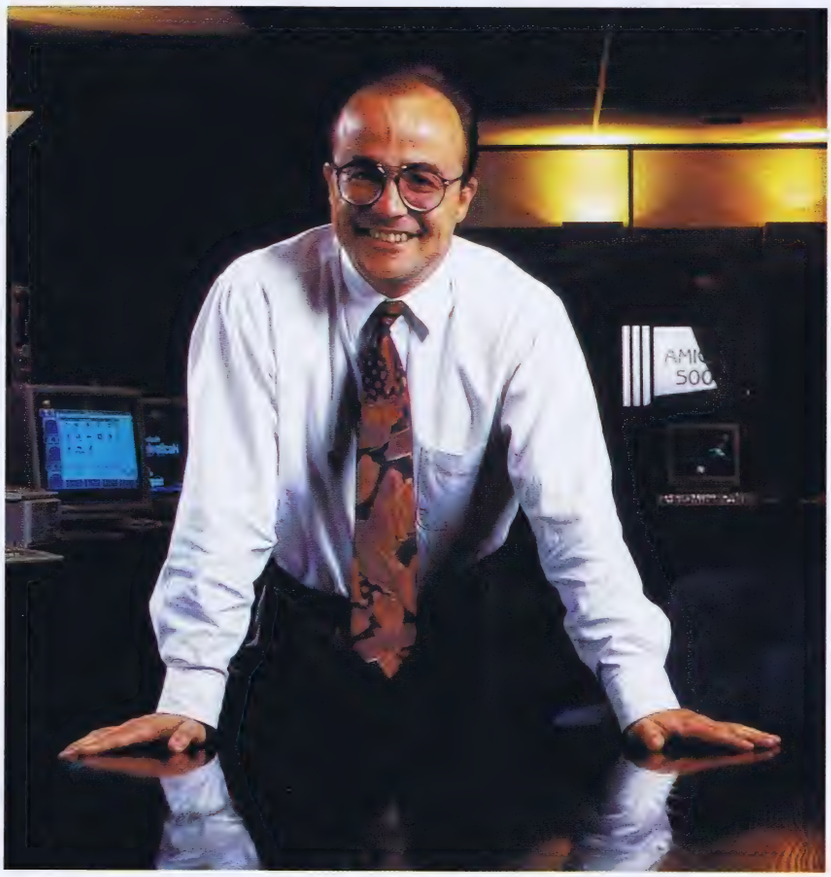

Pictured in the board room at Commodore UK's Maidenhead HQ, Kelly Sumner presents a friendly face to the nation's press.

Commodore in his own words

Kelly Sumner is MD of Commodore UK, the company that brought you the Amiga. So who better to ask about the past, the present and the future of the Amiga? **Tim Smith** asks the hard questions...

NOBODY KNOWS COMMODORE UK better than Kelly Sumner. He joined as a bench engineer and now he's the managing director. Over the year we've had reason to speak to him many times about how Commodore is doing at what the company's plans are.

So let's hear what the man behind the company behind the Amiga in the UK has to say...

On starting out at Commodore:

"I joined Commodore on June 11, 1979 because they were offering training as an electronics engineer," reflects Kelly. "I was a bench engineer on a line. Most of our business was calculators, watches and chess games, things like that. When the VIC 20 came along, I was sole engineer on that."

On asking the worldwide boss of Commodore for a better job:

"For a snivelly little service engineer to go to the MD and say 'I want another job or I'm leaving the company', that was quite something at the time."

On joining the Amiga 1000 sales team when it was launched:

"It was tough, very tough. I can't say it was the most successful product ever. Selling for about £1,500 as a single drive and £1,700 with two floppies. But it was a heck of a machine. We probably sold about 14,000 in a year."

On his rise to boss of the UK operation:

"Three years ago I was just a sales person in the company and either I've been very lucky or I've stabbed a lot of people in the back along the way! Basically I've got where I am through two things: hard work and common sense. I'm certainly not the best educated person. In fact, I've only got GCSEs."

On the significance of the new boss coming from the consumer, rather than business, side of the firm:

"Commodore has always been in mass-merchant consumer electronics. We will never, ever be an IBM. But we're very good at producing cost-effective kit and selling it in large volumes, and that basically means consumer products. The core of the company is retail."

On how the Amiga 'got where it is today':

"As my predecessor [former MD Stever Franklin] would say, it had the 'Wow!' factor. Graphically and soundwise, it was years ahead of its time. Then the quality and depth of support, whether it be software or hardware, made it a hit with the techno people. They started saying how wonderful it was and it started being bought by the masses."

On the Amiga being the top machine:

"It's on such a roll now, it will be very hard to stop. We're selling in excess of 300,000 Amigas every year now, and we're selling it to dedicated people who are spending 3 or 4 times as much as people buying a Sega or Nintendo, and they've got a very good rationale for doing that. The Amiga effectively grows with them. The machine is so open, you can do what you like with it."

On how long can the Amiga last:

"Over the last year or two we've been getting the range right by bringing in new chip sets, new machines, new technologies, and that's just the start. There's no reason why the Amiga should ever stop. You may not see it in the base format, as the 500 or 500, but who knows what we're going to have in 10 years' time?"

> "There's always turbulent waters when you have to change, especially something like the 500 which was loved by literally millions"

On loyalty to existing users:

"The whole idea of the Amiga is to have a product that is graphically and soundwise better than its competition, but is compatible backwards. If we bring out an Amiga 9000 tomorrow, a guy with 500 software should be able to run it. You don't want to throw away everything you've collected."

On whether the A600 was tailored specifically for Europe:

"There are two types of development. You have a chip development, which is led by the Americans. They're the guys who suss out the base of the machine. Then they come along to European meetings, and they say, 'We've got this wonderful chip set: what do we need to build around it? What memory, what interfaces, what kind of casework', and so on, then it gets put together.

"Something like 85 per cent of Commodore's business is done in Europe, so it would be wrong not to listen to what Europe has to say."

On how the new A600 has been greeted by the public:

"There's always turbulent waters when you have a change, especially something like the A500 which was loved by literally millions, but the sales certainly show that the 600 is picking up and accelerating through the summer, which is something you don't often see."

On sales of the A600 after the price cut from £399 to £299:

"The price went down and I was envisaging a two, maybe three-and-a-half fold increase in sales. What happened in the first week was that we got just over a four-fold increase in sales. We thought 'great, four-fold increase', but it's going to settle down. What's actually happened subsequently is that each week it's grown. Not hugely – last week's growth was 7 per cent – but it's now nearer a four-and-a-half-fold increase on sales since we dropped the price."

On reaction by the dealers to the A600:

"We were talking to NASCR [National Association of Computer Retailers]; we were talking about the price drop and a lot of the guys are successfully switch-selling from Nintendo and Sega to Amiga. Basically they're saying 'Yeah it's £100 and a bit more, but do you realise how much more a Sega/Nintendo cartridge is? Do you realise how much Amiga software is?'

"And to quote Dale Bradford [an independent dealer and a regular columnist for trade paper *Computer Trade Weekly*], "They're ejaculating themselves off the shelves". It certainly seems to be working. It's too early to say what that means to the overall picture of the year. It certainly means we'll achieve the 300,000 mark we've been forecasting."

On making the Amiga in the UK for the first time ever:

"We are now producing the A600 in in Scotland. When I say 'producing', I don't mean assembling, I mean actual production from the board layer up. So the chips and the plastic moulding are made in the UK. All the product for the UK pre-Christmas will be built in Irving in Scotland, and we export a significant number of Amigas to Europe so we will be a net exporter of Amigas this fiscal year.

"It's also created, or rather secured, 200 jobs in Scotland. It is not Commodore UK, it's an associate company called SCI. And it's our intention to produce all Amigas in Scotland whether they be high-end or low-end. This is basically endorsing our belief in what the UK Amiga market's going to be and what it is at the moment. It's not easy, it's not cheap to set up a production plant – we believe it's going to be a good market."

On whether building machines in Scotland will affect the price:

"Instead of having to rely on shipments from the Far East, now we make them in the UK which is much, much quicker. We have been planning the price drop for a couple of months and we knew that we could be producing in the UK and this was factored into the [new] price. What it means is that we can get the machines on to the market more quickly."

On the new Amiga packs:

"The A600, Wild, the Weird and the Wicked. This pack was available in the shops in October priced at £349.99. It's a direct replacement for Cartoon Classics. It has in there *Pushover* from Ocean, *Putty* from System 3, *DeluxePaint III*, obviously, from Electronic Arts, and Microprose *Grand Prix*.

"There are details of how to fit everything on the back. Even though the failure rates on A600s are far less than A500s we've even put quick connect guides in there.

"We also have the A600 HD pack. You have in there *Epic* from Ocean, *Rome* from Millennium, *Myth* from System 3 and *DeluxePaint III* from Electronic Arts. Slightly different, this is the dual-sided pack with the Amiga Language Lab on the back.

"This contains *Trivial Pursuit* in three languages, German, English and French, a multi-lingual dictionary to help you out if you don't really understand French or German, and *AmigaText* which is a basic word processor. This again will be available in October and will retail at £499.99 so there is no change in price. These packs will run us through next year as well. I can't see any change. This is it."

On criticism of the game Epic:

"Basically all our packs are put together in January. We went with *Epic* basically because Ocean said it was going to be the best thing since sliced bread.

"All the software in all the packs is tested by us. So if you look at *Epic*, that will go through and be tested on all the different types of A600, though in fact there's only one at the present moment. "

"When we put the packs together, we realised that we had no big blockbusters like *Batman* or *Bart Simpson*, so we decided to go for products that were either visually effective or were bloody good to play. We believe we've got the right mix here."

"*Epic* is visually a very impressive game. What it's doing is giving the individual an idea of the type of software available for the machine. I'm not a games player but my guys say it's OK. I saw it about a year ago and thought it was amazing.

"At the end of the day you're buying HDs out there for £499, you're getting seven pieces

CHANGE AT THE TOP IN '92 AND WHY YOU NEED TO KNOW ABOUT IT...

1992 saw a big change in Commodore UK. It was a change in style, a change in the way that the company dealt with the press, even a change in the way that it dealt with the public.

August 1992 saw the top spot at Commodore UK altered radically. Steve Franklin, the man who had consolidated the Amiga's position as the nation's favourite home computer, with marketing moves such as the famous Batman pack, was moved to take on a new role as CDTV marketing guru for Europe. The man taking his place was Kelly Sumner.

The two characters could not really have been more different:

Franklin – a taciturn individualist, notoriously unavailable for comment to the waiting hordes of hacks, an individualist who doesn't suffer fools. Not much was ever known about Franklin's home life, but a great deal was known about the power of his tongue and the force of his invective. Franklin is reputed to have a fearsome temper – and if he doesn't, the threat of it is enough to make a great number of people wary of crossing him.

MDs past and present – Sumner (left) prepares to take up Franklin's seat of power.

One of Franklin's biggest achievements was convincing computer dealers around the country that the Amiga was a force to be reckoned with rather than simply a very good games machine. With Atari's ST computer falling by the wayside rapidly as the 1990s progressed, it would have been very easy for dealers to tar the Amiga with the same brush. Franklin managed Commodore's marketing initiatives to the extent that this never happened.

In fact, the theory in operation under his reign was that you kept the Amiga priced above the opposition so that it would not just be, but also look like, the best machine. Although this worked well for a while, towards the end of his tenancy some voices were raised in criticism.

Sumner – a more affable team leader. He has been working for Commodore since 1979, when he joined simply because the company was offering training for an electronics engineers. By his own admission, Sumner is not the most academically advanced man in the world – he only has CSEs to his name. But what he does have is a firm knowledge of the Amiga.

One of his first jobs was as an engineer on the VIC 20. He then moved on to the C64, before moving over to sales on the new Amiga 1000. The granddaddy of the Amiga family was not a fast seller, and it was a relief to Sumner when he was moved on to the sales team, whose task it was to sell the Amiga 500. He quickly moved up to sales manager, and then eventually to the managing director's chair.

The first two moves made by Sumner were enough to have made him a controversial figure for the rest of his tenure. First he decided to hold regular press conferences in stark contrast to Franklin's 'Fortress Maidenhead' policy.

Second, and perhaps even more of a shock, Sumner dropped the price of the base-level Amiga. Which all goes to show that changes in the management at Commodore do affect you, the Amiga owner. It is not simply a case of corporate machinations occurring behind closed doors.

Both Kelly Sumner and Steve Franklin are 'hands-on' managers. Both are well aware that the Amiga is undoubtedly the flagship of the Commodore range – 3,000,000 machines in use worldwide and approximately 1,000,000 Amigas in the United Kingdom alone vouch for this fact.

Any moves that Kelly Sumner makes regarding the Amiga will undoubtedly affect you – the same applies to Steve Franklin and the CDTV project. So next time you hear either name mentioned, you will know to take notice of what they have to say...

of software for nothing, so you can throw the *Epic* away if you want. You're still getting *Rome* and *Myth* which are both impressive".

On whether Commodore has considered a Sonic or Mario character for the Amiga:

"Yes. There are a number of options we're looking at that lend themselves to that kind of exposure. But it won't necessarily be at Christmas, it may be a little bit after. We have looked at product that we can hang our hat on and say 'that is a quality product' and not just today, but as the development of the Amiga progresses we can upgrade the software to show the new qualities of what we're trying to bring to the market very easily. So if we were to launch an Amiga 5000, something could come out on the 5000 at launch and they could say, 'Wow! Yeah, I can understand that!'".

On availability of A600s outside the packs:

"We will still make the single-drive, stand-alone option available but we will limit it dramatically. It's better for us to sell packs than £299 products. Don't be surprised if your readers find it difficult to buy £299 Amigas."

On value in the A600:

"In real terms, the 600 offers people everything, and in time will offer them more than the 500 ever did. Look at things like surface-mount technology, and people say 'That doesn't mean a lot to me', but it does if the machine goes faulty on them.

"I got the reports of the first three months of failures. Now, at a conservative figure, the 500 range was probably 8.5 per cent failure rate. The 600 at the moment is running at less than one per cent. Not only that, but even if it does go wrong you don't have the hassle of sending it back. That has got to be a leap forward."

On the PCMCIA 'credit card' or 'smart card' slot:

"Obviously times change. The PC bus is now the standard, and will be increasingly the standard, for expansion on a number of different machines, not just the Amiga."

"Our idea is, if you buy the 600 and you want a hard disk, you get it on a PC slot, the size of a credit card, 20Mb, 40Mb, 60Mb, whatever you like, plug it in, there's your hard drive. You don't have to open up the machine you don't have to bolt on this big, expensive device. And if you want to go down to your mate's and play games off the hard disk, or use utilities off the hard disk, that's all you need, the card. You can just put it in your top pocket and away you go."

"Prices at the moment are not particularly competitive – as with anything, on introduction people think that they can get more for it than it is actually worth – but you are going to see prices fall dramatically over the next three or four months. Anything that can be done on the DMA bus, I am told, can be done on the PC bus – so if you take any of the third-party peripherals, they can be done on the PC bus, there is no doubt about that. When we launch the A670, that will be proved. Amiga users will have a much wider range, and a much more cost-effective range."

On why none of the software in the A600 packs is on 'smart cards':

"They're expensive. And when Fujitsu and Mitsubishi and all these guys get their acts together and realise that they're over-priced, we may well do something. The other thing is that the lead time on production of smart cards is 12 weeks – if there's a peak of sales, we can't turn them round quickly enough."

On why CD is the medium of the future for software publishers:

"If you look at the price of a Sega or Nintendo cartridge, it's very expensive. Any cartridge is always going to be more expensive, and also it has a longer lead time. You can press a CD in 48 hours, but a ROM cartridge takes three months. And there are lots of implications as far as cashflow in companies is concerned. I'm not saying people won't bring out games on cartridges, but CD is the way we'd like to steer it.

"We'd like to have inexpensive software, and the only way you are going to do that is by having a relatively inexpensive format and to be able to sell mass, so that means CD with no piracy. Disk software could sell cheaper, but they're unwilling to do that because of piracy. Cartridges can't be sold any cheaper."

On the price of software on CD:

"Our ambition is to make it viable for software houses to sell quality software at £20 or below. We would like to get nearer the music CD price. A CD, to press, with a case with an inlay, is a couple of pounds. Put that against a cartridge which costs maybe 10 pounds... And quite frankly, you're limited in what you can do with a cartridge. Some of the stuff we've got coming out for CDTV at Christmas, you'd have to have a £300-£400 cartridge."

On software publishers supporting the Compact Disc Amiga:

"Most publishers are producing software for CD that will run on 570, CDTV, 670, or whatever you have. I think that over the next six months you will see that happening from most of the major software houses – I can't say all of them, but most of them. And I think probably after Christmas you will see product coming out on CD and not coming out on floppy disk. Because there will be enough CDs there to make it worth their while. And if you asked me to prophesy, I'd say the floppy disk market will be dead inside three years."

> "We are now producing the A600 in Scotland. When I say 'producing', I don't mean assembling. I mean actual production from the board layer up"

On potential sales of the A570:

"It isn't just a CD machine, it's an expansion for hard disk and memory too. You could say [sales will be] anything from 10,000 to 50,000 in the first six months, up to Christmas. I would say that we would confidently expect to sell in the 20,000 to 30,000 region."

"This is really designed for the 1.3 owners and there's something like 500-600,000 of them, so if only 10% upgrade that's 60,000. It's not the product for 1.2 owners. It's 1.3 minimum and 1Mb of fast RAM. So the 1.2 owner is best to trade in for the CDTV."

Chelsea FC, sponsored by Commodore. "I was hoping to change the name on their shirts to Amiga this season" Kelly Sumner told *Amiga Format*, "but there wasn't time. We'll definitely do it next year." It's an indication of the faith Commodore have in the Amiga.

On when the A670 might arrive:

"I would be disappointed if we didn't see it pre-Christmas."

On whether CDTV discs have been too expensive:

"Yes. We will introduce a range in the not-too-distant future, I would suggest starting at £9.99. We will have a budget range. But the big ones are still going to be 35 quid or whatever, because the developer has to make money back. CDTV titles are expensive to develop. Some of the older titles will find their way to £9.99 very quickly.

"The idea is that as we get more CDs out there, we will be able to start selling [new titles] cheaper than we would 3.5-inch games.

On CD as a piracy solution:

"The reason that they [software houses] say they have to charge £24.99 or £34.99 is because of the piracy problem and they just don't get the return. But using a CD, there is so much code there that if someone wants to pirate the disk it will cost them more to buy the blanks than it will for them to buy the original. And that's the only way we are going to stamp out piracy.

"So, if a game was £19.99 and it takes 40 disks to copy, it's not worth it for a pirate, he might as well go and buy the original. OK ▸

so he might get a kick out of it, but it's a pretty expensive kick – and he'd get a very sore wrist from putting the disks in and out."

On the potential of CD games:

"We believe that the long-term future of this industry is based in CD. The games are getting bigger and the cost of goods is getting more expensive. They've got to go to CD."

On the first major CDTV title, *Microcosm*:

"They've been working on it for 18 months. *Microcosm* is a Commodore-owned product, and Pysgnosis are producing it on our behalf. We are funding it. If you were to play that game from start to finish, that would be about three hours of continuous gameplay. And that will be a product that will be along very soon."

On rumours of a PC emulator for the A600:

"We've also got a new bridgeboard coming out. To start off with this will be on the 2000, 3000, 1500 machines and that will be a 386SX/25 bridgeboard with 2Mb of RAM on board which can be configured for the Amiga or for the PC side. It will priced around the £250 mark.

"It is currently envisaged that we will be looking to do something similar for the A600, but I suggest that we will do this at a different price point."

On competitors: Atari and the new Falcon home computer:

"We don't see them as competition. At the end of the day, their success will benefit everyone in this room, because competition is good for the market. But in my personal view, I don't think it will be a success."

On competitors: Philips and the new CD-Iinteractive machine:

"I don't see CD-I as a threat"

On the apparent failure of the 'interactive television' concept:

"We weren't involved in any of the development of CDTV technology, that was all done in America. We were taking the lead from the corporate company. And there was a corporate stance of: 'This is how you sell it, this is how you promote it, this is the way forward, don't do this, don't do that.' So that's what we did.

"But after six or eight months we basically turned around and said: 'You don't know what you're talking about, it ain't going to go anywhere, and if it does go anywhere you're going to have to spend so much money that it isn't worth doing, so we're going to call it the Amiga CDTV, we're going to produce a package with disk drives and such like, and we're going to promote it like that, people can understand that and you don't have to spend so much money'.

"And that's obviously working. You've got the Multimedia Pack [CDTV with keyboard and disk drive] now in the UK, Germany, France, Italy – the whole of Europe. And where it is head-to-head with CD-I, I would suggest it's probably outselling it somewhere in the region of five or six to one. That's based on what Comet and Dixons told me. We're certainly outselling it.

"The great thing is that now CD-I is out there, people can actually judge which one is the better system. I believe that our software was pretty poor to start with. We are now getting some decent software and we've got more software and better software waiting to come through than CD-I has.

"The future of CD will not be CD-I versus CDTV. I don't believe that CD-I will work, I believe that Philips will pack their bags up. And the other guys (Sony, Panasonic) will only come on board when they see there's a market there.

And until Philips sell a significant number of players – and I would say that means 200,000-300,000 at least – Sony are not going to invest a whole chunk of money in something that's going nowhere quickly. I think you'll see those people joining other technology groups, and bringing out something else, a total jump over CD-I. "

On more new Amigas:

"An Amiga chip set takes much longer to develop than any other chip set. We have a group of people, and all they do all day long is refine and develop the chip sets, until it gets to a stage where we need one. We're continually doing that."

"There will be a new high-range Amiga in the September-October timeframe [the A4000], there's no question about that. Higher than the A3000. We've just repositioned the A3000, because we think it was specced too high. We've effectively halved the price.

And there will be a number of new machines in the next year to eighteen months."

On with the rest of the annual...

1992 – A NEVER-ENDING SUMNER
A LETTER FROM KELLY TO YOU

Commodore

Dear Amiga Format reader

There's no doubt in my mind that 1992 will be remembered as the most important year for the Amiga since its launch.

The year started uneasily as we received a lot of flak in the media over the Amiga 500 Plus's introduction. That was unfortunate, because it contained a lot of scaremongering and even in hindsight I would not change the way the Plus was introduced.

I've now noticed that the people who began the year by asking ridiculous questions about whether we had any plans to drop the Amiga are now totally behind the product. Equally, predictions that we could not survive in the midst of strong competition from console manufacturers have proved groundless and we now look forward to yet another year in which more people have bought Amigas than ever before.

But my biggest memory of 1992, apart from my promotion, is that this year saw the start of the CD-based multimedia revolution. We can tell, because every single week more CDTVs are bought than the week before, more titles are being purchased - and there are literally hundreds more titles under development.

The quality of software has improved dramatically in 1992 and for the first time we are close to having a title for CDTV that will redefine computer entertainment. That title is Microcosm, and Psygnosis tell me it should be ready in early 1993. Its availability should tie in with the A670's release date - further details on that product will follow soon.

As far as software that I would like to see for the Amiga is concerned, it already exists for the Amiga 600 and its name is Zool. For high-end Amigas the main priority is to get as much as possible in the graphics and multimedia world that will capitalise on the stunning new AA chipset found in the Amiga 4000.

As we move into 1993 my main ambition is to dominate the field of multimedia, through products like the CDTV and the Amiga's technology. You must remember that AMIGA is a technology, not a product, and we will ensure that it remains the smartest, fastest option for years to come - just watch this space!

Yours Sincerely

Kelly Sumner
Managing Director, Commodore UK
October 12th 1992

Reg. Office: Commodore Business Machines (UK) Limited, Commodore House, The Switchback, Gardner Road, Maidenhead,, Berks SL67XA
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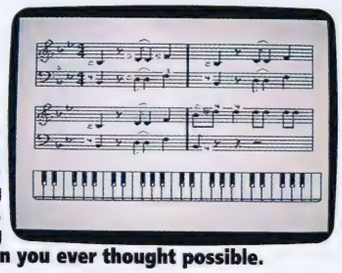

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TELEPHONE

The new PCMCIA slot in the Amiga A600 – does it herald a revolution in data storage, or is it an evolutionary dead-end? **Jason Holborn** investigates the future of Commodore's ground-breaking step...

The end of the floppy?

PCMCIA cards come in four flavours: Static RAM cards, for memory expansion; SRAM cards with 'peripheral functionality', a big way of saying adding extra hardware like hard drives and modems; Flash EPROM cards, which are read-write and therefore an alternative to floppies; and ROM cards, which would be used for supplying software, like the cartridges used by game consoles.

WITH THE A500 Plus now dead and buried (but not forgotten), the arrival of the A600 has been seen by many as an anti-climax. With the standards of PC, Mac and even Atari computer technology advancing, many industry speculators saw the release of the A600 as more of a step backwards for the Amiga.

The majority of criticisms were levelled at the machine's potential for expansion. Expecting to find the same 86-pin bus connector as the A500 series, many so-called industry experts condemned the 600 before it had a chance to prove itself. This port proved to be such an important aspect of the A500 that it seemed only natural that its omission was a big mistake. How were users to add extra RAM. What about devices such as the A570 CD-ROM drive and the numerous SCSI hard drives which rely on this connector?

To an extent, the criticisms were founded on good, solid reasoning, but one aspect of the machine that was overlooked was a little slot on the left-hand side of the machine. This obscure-looking beast may not look as impressive as the 86-pin connector of old, but its potential is unlimited. It delivers full compatibility with the standards laid down by the Personal Computer Memory Card International Association (PCMCIA), a group of highbrow representatives from such companies as DuPont Electronics, NEC, Toshiba, Motorola, Zenith and now Commodore.

So what's all the fuss about? Well what makes PCMCIA so special is the sort of applications the port opens up to the average Amiga user courtesy of the PCM card. It looks fairly similar to your average credit card, and can be used for a number of different applications ranging from simple expansion of the Amiga's system RAM to hardware expansion and even 'software on a card'.

But why not stick with the existing DRAM and SIMM chips that are in common use on the Amiga? The answer is simple – compatibility with other machines. Because PCMCIA is based on a well-established standard, any IC Memory card that conforms to the PCMCIA guidelines can be used on the Amiga regardless of whether it was meant for the Amiga or not (you could use a PCM memory expansion for a PC, for example). Of course there are limitations. After all, there's no point connecting a ROM card containing PC software to an A600 – though the A600 will recognise the files on the card (protocols and storage formats are the same on all PCM cards), it won't be able to use them.

> "It's unlikely that you'll see games appearing on PCM because they would probably cost double what a game does currently."

Other advantages of PCMCIA cards are data portability and their physical size. Using a Flash EPROM card, it's possible to copy on to it a selection of word-processor files prepared on the Amiga, disconnect the card, plug it into a PC and pull the files into a program like *Word for Windows*. As you can see, the days of faffing with incompatible disk formats are drawing to an end. Plus PCMCIA cards have a strong casing, so you can carry up to 4Mb of data around in your inside jacket pocket secure in the knowledge that it is safe.

Expansion is another very important aspect of the PCM card. With the release of the PCMCIA standard version 2, IC Memory cards can now act as a mediator between the host computer and hardware devices such as LAN networks, hard drives and modems.

What's more, because the cards follow an industry standard, any hardware that connects to a computer via the slot can be used on any machine that supports PCMCIA cards. This is great news for hardware manufacturers – all they have to do is to write driver software for

Dave Jones, the man behind *Lemmings* and a big red nose, would like to develop on PCM.

the host machine and the hardware itself remains generic, cutting down on manufacturing and development costs.

ROM cards are another exciting development. These work in a similar way to the game cartridges that are used on consoles. Because the game is effectively already held in RAM, as soon as it is connected to the host machine the game becomes available. No more waiting for games to load. ROM cards don't just benefit the home user though – it's very difficult to copy ROM card software. Although professional pirates will be get around this, it'll stop 'playground piracy' that is rife on the Amiga.

What are the drawbacks to PCMCIA then? Well for starters it's such a new development that the cards are still very expensive, so you won't see games appearing on PCM cards for a some time, if ever. Most people don't mind paying £25 for a game these days, but PCM-based games would probably cost more than double that – it would have to be an impressive title to justify that sort of price tag.

It's unlikely too that you'll see Amiga developers such as GVP producing add-ons which use the PCM slot. When I spoke to Andy Leaning at Silica Systems (GVP's official UK distributor), he confirmed that GVP is looking into the possibility of supporting the PCM slot, but it's unlikely a product will appear unless the market is large enough to support substantial sales. This is a view shared by Amiga developers: what's the point in supporting PCMCIA when the development costs are so high yet the market is so small?

At the end of the day the PC market will decide the fate of PCMCIA. The PC market is larger than the Amiga market, so sales of PCM cards to PC users will dictate any future price adjustments. Although the Amiga market is still important, it's still regarded as small-time – especially considering that currently only a single model of Amiga can use the cards.

So surely it would make sense for Commodore to build PCM card support into future Amigas and to provide an adaptor which would enable the cards to be used on a standard Amiga. Yes, but Commodore has never been renowned for spotting the obvious. The new A4000 doesn't have a PCM slot, although – in Commodore's defence – the company has pointed out that it could easily release a PCM adaptor for the A1500/2000/3000/4000 series of machines. All very well, but what about A500 users? With 95 per cent of the UK Amiga market dominated by this successful machine, you'd still only have a user base of five per cent if every A1500, A2000 and A3000 user bought the adaptor. But it's worth bearing in mind that a PCMCIA adaptor could also feasibly be created to attach to the edge connector on the Amiga 500.

The PCM slot in the side of the A600 is more or less exactly the width of a credit card, and the cards are a very similar size to a credit card, although they are a good deal thicker; about 3mm deep.

Developers are miffed with Commodore over PCMCIA. Many want them to provide incentives to develop PCM products – low-cost blank cards for example. Commodore has hardly shown interest in promoting PCM cards either – the A600 manuals don't even mention the existence of the PCMCIA port.

Commodore has admitted it doesn't expect to see games on PCM cards, because of the cost – the company believes CD is the medium for games. It seems a shame, then, that the only Amiga to date to feature PCMCIA is the base-level, game-playing A600 that was designed to see off the consoles.

But there is light at the end of the tunnel. If PCMCIA is introduced consistently across the Amiga range, it could be that it will take off. Miniature, portable modems, RAM expansions, read-write flash EPROM cards and even hard disks will be developed for the PC market and will easily be ported over to the Amiga. Eventually, as prices fall, more and more expansions will become available to Amiga owners and at lower and lower prices. Eventually, productivity software like word processors and graphics programs will be sold on card rather than on disk.

This vision of a rosy future relies on just one thing: that Commodore has backed the right horse. If the gamble on this particular standard pays off, we'll be laughing.

A WORD FROM THE DEVELOPERS

"From a games programmer's point of view, PCMCIA cards are the perfect medium for developing software – I've already got *Lemmings* up and running on a PCM card. Much like cartridge-based systems, they give you instant access and they are therefore far easier to develop for, simply because you just don't have to keep messing around with disk routines.

"At the moment, though, the only real problem with them is their incredibly high price – if this was to drop quite substantially, then we would definitely start developing products like *Lemmings 2* on PCM cards."

Dave Jones, programmer of *Lemmings*

"As far as we're concerned, the PCM slot is a long-overdue replacement for the 86-pin A500 Bus connector. I certainly hope that it will be incorporated into all of Commodore's new Amigas. If this were the case, it would allow peripherals to be generic across the entire range of machines, reducing development and manufacturing costs.

"I don't think it's the answer for games, though – PCM still doesn't offer total security against software piracy. The plague of piracy that is sweeping the console markets at the moment demonstrates this all too well."

Jolyon Ralph, CDTV developer for Almathera Systems

"The PCM slot is a smart move from Commodore, although the success of PCM isn't really in their hands. The Amiga marketplace is undoubtedly very important, but it is in fact the larger PC market that will dictate how successful the PCM standard is. Several of the companies that we represent are looking into PCM and the A600, although it's still too early to say exactly whether we'll see PCM products appearing."

Andy Leaning, Silica Systems

"I personally don't think that PCMCIA cards will affect the market dramatically. Systems like PCM have been tried before, but they never succeed. We'd like to move away from floppies for our serious software, but PCM isn't the answer simply because of its cost.

"Because of the very nature of serious software, developers would still have to resort to floppies if they wished to provide the end user with upgrades to products. At the moment, floppies are the only affordable answer. If Commodore wants developers to develop PCM products, then they should at least provide some form of incentive."

David Link, HiSoft

"The PCM slot is a nice idea, but it's just too late for the Amiga market. Producing games software on PCM card is just too expensive at the moment. Not only that, but PCM still doesn't provide total protection against piracy. Take the console market, for example. Cracking teams have already managed to crack games on the MegaDrive and the GameBoy – I know, I've seen them freely available on bulletin board systems. Commodore should have built the slot into the Amiga years ago."

Martyn Brown, Team 17 Software

The Amiga in 1995

What will the Amiga be like in three years' time? The obvious answer is 'not much different', but with an insight into what Commodore is planning, **Damien Noonan** believes we'll see radical changes...

WHEN THE AMIGA first appeared, in 1985, it arrived at the crest of a wave of technological advance in the computer industry. The older 16-bit home computers had suddenly been ousted by the new generation of 16-bit machines. Within a year the original A1000, which cost over £1,500 yet had only 256k of RAM, had been replaced by the smaller, more powerful A500 which offered 512k power at less than £500.

So much is history. And what is also history is the fact that since then, in the course of six long years, the A500 changed hardly in any significant way. You could even argue that the recent changes which came with the A600 are really only superficial.

But if the Amiga has changed so little in six years, what cause do we have to think that it will change a great deal in the next three? Hmm, a tricky question. But there are two good reasons.

First of all, the Amiga is currently going through a phase of change that is very much part of Commodore's planning for the future. With the slight changes in the A600 and the new chip set in the A4000, much of what will become standard Commodore specifications is now being introduced.

Secondly, there are wider changes going on in the world of 'home entertainment' technology that will have an impact on the Amiga. And we know that Commodore is very aware of these changes and is to take them into account. Which could put the Amiga in a very special position, three years down the road.

Plus there's one other factor that we should bear in mind, too, and that's the continuing pressure of technological development which ensures that available technology becomes cheaper and smaller. This is particularly true in recent times, because the main advances have been in miniaturisation of components for portable computers. All this has an effect, as we'll see.

Details, details. Most of them are dealt with elsewhere in this article. For now, let's look at the most important things – the general patterns that will shape the Amiga of the future.

Far and away the most important is that it will not have a floppy disk drive. "What? Can he possibly be sane?" Yes, I'm afraid so. There can be no doubt that the floppy disk is on the way out.

And, naturally enough, it's a CD-ROM (Compact Disc Read-Only Memory) drive that will replace it. If you're not already aware of the reasons why the CD will take over from the floppy – and perhaps within the next year – let's recap briefly.

It's all to do with the profitability of the companies that create and publish software, particularly the games publishers. Their financial viability is badly affected by piracy – the unlawful copying of disks.

We need a constant supply of new, better software and only the software publishers can provide it, but of course they won't if they can't make any money from it. Without access to the latest and best software, the Amiga would die. So we have to accept that piracy must go.

Piracy can be stopped in a number of ways, but the best approach is to combine two methods: first, prevent it by making it physically difficult or impossible; Second, discourage it by making software cheaper, removing the need for piracy.

Compact discs are cheap to produce and so most software houses agree that a £20 standard price would be possible. But they are also difficult to pirate, mainly because a CD can contain masses more data – more than 600 times as much as a floppy disk.

The CD also has many other economic advantages for software houses, all of which serves to make it quite certain that CDs will be the prime medium for most new software as soon as enough CD-drive machines are in use.

This could be as early as this time next year and it seems likely that Commodore will force the pace of this change to CD by equipping new Amigas with CD drives. The cost, incidentally, is almost exactly the same as a floppy disk drive.

> "Commodore clearly believes it can produce a 68030-based, full 32-bit machine with the double-A chip set, 2Mb of RAM and a 16-million colour palette for under £500. Wow!"

The Amiga of three years' time will, therefore, almost certainly come with a CD drive and not a floppy disk drive. There will still be the facility to attach a floppy disk drive for use as a save medium – saving files to floppy from word processors or paint programs, for instance. Though it is just possible that by then the main medium for saved data will be battery-backed RAM cards, if RAM chips are cheap enough.

But CD is certain to be the first of the major changes we'll see in 1995's Amigas. And it's also connected with what we would expect to be the second major change.

Not just the Amiga, but the whole of the home entertainment industry will be affected by this. "Within three years," predicted Commodore's MD Kelly Sumner, just a few months ago, "video rental shops will disappear completely." Why? Well, it's down to something that has the undramatic title of FMV.

FMV stands for Full-Motion Video which itself is actually shorthand for full-screen, full-motion video. Essentially, FMV makes it viable for the first time to store and transmit video images digitally.

Although we're quite used to digital music on CDs, it may not have occurred to you that digital video was possible. Indeed, technically it's quite a difficult achievement.

The problem is that video involves a lot more data than audio. A full screen of TV picture has to be transferred from CD to the player 25 times a second, along with accompanying soundtrack. Unfortunately, CD players simply cannot transfer data quickly enough.

The solution is to compress the data when it is stored on the disc and decompress it after it is read from the disc. The electronics industry set up a research body called the Motion Picture Expert Group (MPEG) which has now developed a standard set of chips to do the compressing and decompressing job.

The MPEG chipset was finalised and released to electronics manufacturers just a couple of months ago. It manages to squeeze 72 minutes of video on to a normal-size (12cm) CD, so when you buy *Terminator 2* the movie on CD in a couple of years' time, it will probably come on two discs.

Commodore is certain to include the MPEG chip-set in all machines equipped with CD drives, and again this may possibly happen as early as this time next year. The result will be that Amiga software will be able to use full-motion video, just as the CDTV can now use hi-fi audio from CD.

All of which adds up to some pretty impressive potential for the CD-based Amiga software of the future. Not only can games be created that use a full 650Mb of storage space, with enormous potential for film-like games and astonishing graphics, but also games will use video footage and stereo hi-fi soundtracks. Amazing.

So suddenly your Amiga becomes a lot more than just a computer: it's a laser-disc video player and a CD hi-fi as well. And if you can begin to imagine the effect CD storage will have on society, it could be a lot more besides. For instance, what if your telephone directory came on CD-ROM instead of in the form of a a phone book?

The Amiga of 1995. It would probably have been released in November 1994, in time for the Christmas market that year. It's called A1000 in memory of the original Amiga of 10 years before. The styling is based on the compact A600 of 1992 and the main features are the full keyboard, the CD drive and the fold-down colour LCD screen...

COLOUR LCD SCREEN
A typical example of a technology that will drop in price over the next couple of years and become an affordable extra, this is an 'active matrix' colour LCD display. Each pixel is driven by its own capacitor, giving an image of superb clarity. Folds down and clips for transport.

CD-ROM DRIVE
The biggest change as CD takes over from floppy disks and cartridges as the medium for entertainment software. Most machines will come with only a CD drive, though of course you will be able to buy an external floppy drive for saving files to.

But enough of all this wild speculation. What of the Amiga itself? What changes will there be to the heart of the machine?

This could be pretty exciting. What we're about to outline might seem pretty outrageous, but there are good reasons to think it could come to pass.

For starters, we would expect the 'double-A' chip set, which has just appeared in Commodore's new Amiga 4000, to filter down to the base model. This would give the Amiga of three years hence a palette of 16 million colours, a 256-colour display mode equivalent to PC VGA and a 65,000-colour (16-bit) pseudo-True Colour display mode. It would also mean hardware sprites of unlimited size.

The new chip set is, in theory, just as cheap as the current one to fit. The problem is that it needs to work with full 32-bit architecture. It's therefore safe to assume that the Amiga will become a 32-bit machine with a 68030 processor at least.

Currently, that might seem to be ludicrously expensive, but Atari has just produced a machine called the Falcon, which has a very similar specification and is planned to retail at just under £500.

Interestingly, the reaction of Commodore when asked about the Falcon at a recent press conference shows that the company clearly believes it can produce a 68030, 32-bit machine with a 16-million colour palette for a similar price, and further states: "there's no point in a 32-bit architecture with anything less than 2Mb of RAM".

So we could expect the double-A chip set, 68030 processor with 32-bit data bus, and 2Mb of 32-bit RAM. Like the A4000, this would also mean RAM could be expanded up to 32Mb. Wow!

One other obvious step, which we wouldn't expect straight away but which may well happen, is that Workbench will come on ROM chip rather than on a floppy disk.

The Kickstart 2 ROM (in the A500 Plus and A600) includes several CLI commands that were previously on-disk and it would make sense to develop this idea until the whole of Workbench is available on 'instant access'. Another possibility is that it could come on a PCMCIA ROM card, which brings us neatly to another subject...

Two of the advances made by the A600 are part of Commodore's planning for the future and are set to be a continuing policy for all new Amigas: the PCMCIA 'credit card' slot and the IDE internal hard drive connector.

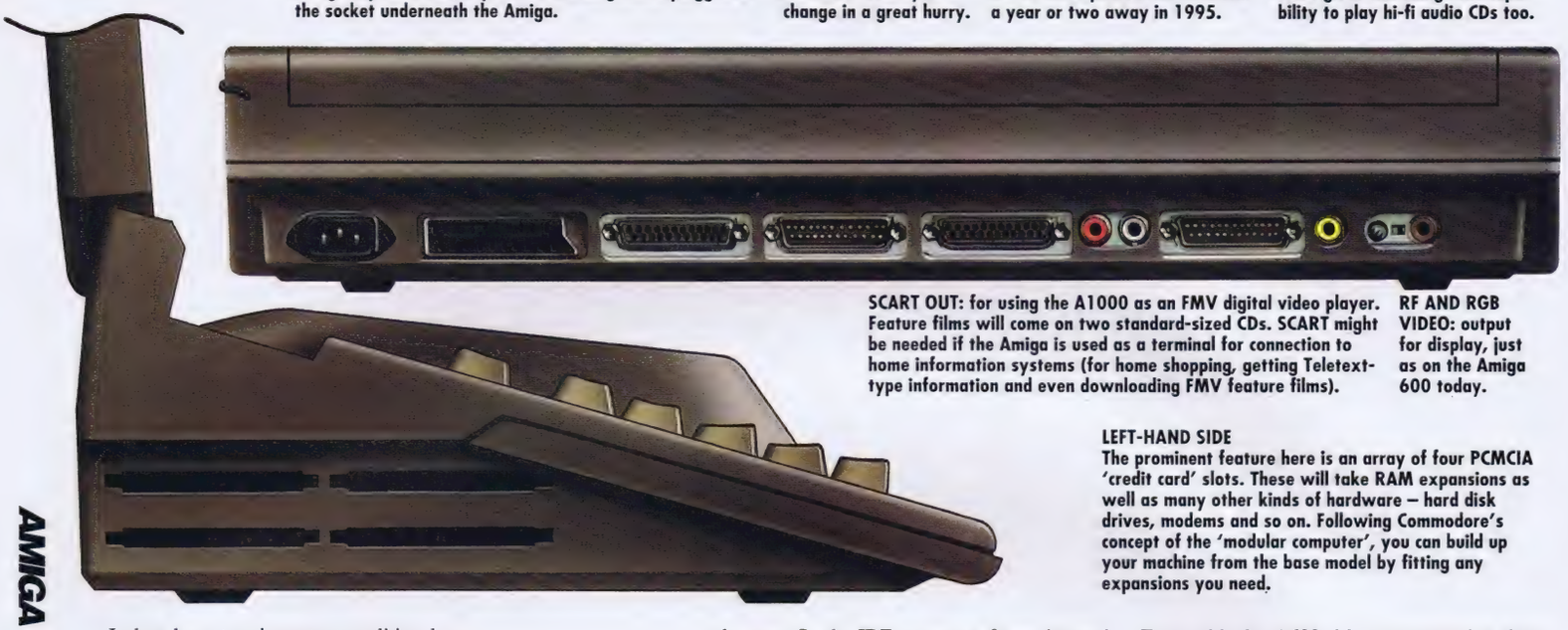
Of these, the more important is the PCMCIA slot. Quite a few misguided opinions are floating around about this – remember, it's just a hardware connector on to which hard drives, RAM cards and so on can be attached, just like the A500's 'edge connector'. We won't be seeing games on cartridges for the Amiga.

POWER PLUG: the big difference being that this is a 'kettle-type' socket for a plug lead – none of that 'brick' power supply nonsense. The transformer is built in and also charges up batteries, if you have rechargeables plugged in the socket underneath the Amiga.

SERIAL AND PARALLEL PORTS: established standards for printers and are not likely to change in a great hurry.

DISK DRIVE CONNECTOR
Another familiar one. You'll need floppy disks as a storage medium: read-write optical drives are still a year or two away in 1995.

AUDIO CONNECTORS
Stereo phono sound leads are here to stay. Remember, the CD drive gives this Amiga the capability to play hi-fi audio CDs too.



SCART OUT: for using the A1000 as an FMV digital video player. Feature films will come on two standard-sized CDs. SCART might be needed if the Amiga is used as a terminal for connection to home information systems (for home shopping, getting Teletext-type information and even downloading FMV feature films).

RF AND RGB VIDEO: output for display, just as on the Amiga 600 today.

LEFT-HAND SIDE
The prominent feature here is an array of four PCMCIA 'credit card' slots. These will take RAM expansions as well as many other kinds of hardware – hard disk drives, modems and so on. Following Commodore's concept of the 'modular computer', you can build up your machine from the base model by fitting any expansions you need.

It does have two important qualities, however. One is that it has been developed by a number of major electronics companies and is set to be a standard on all types of computer. The other is that it makes it more likely that software will appear on plug-in cartridges.

Commodore believes that in the future computers will be bought in a 'modular' fashion: that you will get a base machine, then plug in lots of different expansions to get the configuration you want. So our Amiga of three years hence has four PCMCIA slots into which you will plug RAM expansions, modems, mini hard drives and the like.

While entertainment software will come on CD, business and creativity software is likely to be supplied on ROM cards of several Megabytes' capacity. Apart from load times being near-instantaneous, some code can be executed (run) on the card, which makes programs of this kind even quicker.

If you'd like an impression of what PCMCIA expansions will be like, a typical RAM expansion of between 1Mb and 4Mb is about the size and shape of a credit card, but very thick, about 8-10mm. Hard drives will most likely be 2.5-inch jobs, as used in portable computers, which could mean a complete, cased unit would be as little as five inches by four inches by three inches, while still having a capacity of up to 120Mb.

Which brings us, in a link worthy of local TV news, neatly on to IDE. This is a rival standard to SCSI for hard drive connections which has grown steadily mainly because it was developed for portable computers and so is associated with compact drives.

The actual drive unit inside an Amiga hard drive is bought 'off the shelf' by an Amiga peripheral manufacturer and incorporated with connections and a case to make it suitable for the Amiga. Recently, miniature IDE-type drives have been more common and cheaper and it looks likely that this will continue to be the case. So the IDE connector for an internal hard drive is set to remain a part of Amigas for the future, as well as IDE drives being likely to take over as externals. Internal hard drives also have a cost advantage, because you don't have to pay for a case design as well.

And, of course, an Amiga fitted with an internal drive is practically a portable computer. Which brings us on to another, and more controversial, suggestion.

> "There has never been any suggestion from Commodore that it sees a future in a portable Amiga, but as the technology becomes cheaper it's a logical move. Why not a colour LCD screen?"

Portability. There has never been any suggestion from Commodore that it sees a future in a portable Amiga, but as the technology becomes cheaper it's a logical move.

The A600 has the advantage of a built-in modulator, so you can plug it straight in to the telly. So why not go one better by providing the Amiga with its own colour LCD screen? Naturally you would still be able to plug in to a large TV or monitor, but as far as instant switch-on-and-play goes, a built-in colour screen would be the ultimate.

It seems likely that, over the course of the next three years, such technology will drop in price quite substantially until it is widely available. The latest kind of LCD display is the 'active matrix' in which each pixel has its own capacitor to provide electrical charge, which makes for a much clearer, sharper picture.

OK, but what about other aspects of portability? Well, there's one obvious development that would make sense even if the LCD screen wasn't implemented, and that's an internal power supply.

Even with the A600, it's very annoying that the compact, almost-portable design is inconvenienced by being tied to an enormous power transformer. Many, many different kinds of electrical device carry a small transformer on board. This would be a logical development for the Amiga, in much the same way as the incorporation of the TV modulator inside the A600 makes a lot of sense.

So to power up the Amiga of the future, you only have to plug it in. But what about when you're travelling? Yep, it's battery-pack time as well.

Perhaps the only thing holding back portable computing at the moment is the fact that the batteries never last long enough. With a colour screen, a computer and a hard drive to run you've got to supply quite a lot of power.

Currently, a good deal of research is going into low-consumption chips and peripherals, so as to minimise the power demand. But an obvious solution would be a marked improvement in battery technology, which hasn't changed that fundamentally since well before the era of computers.

So let's assume we're going to cram a transformer and a battery pack into an Amiga. Where will it go? The most obvious place is in a redundant gap that we don't need any more. Yes, the trapdoor slot. There's no real future for the trapdoor expansion, which is generally just used for RAM expansions, as soon as PCMCIA takes over.

So there we are – the Amiga that you will be able to but in three years' time. But how much will it cost?

Essentially, it's only the portable LCD screen, the hard drive and the larger case which will cost more than the current A600. And we're taking into account the falling price of technology. So if the A600 is £299, shall we say £399? How does that sound, sir?

And if the 1995 Amiga 1000 came out today, you can bet I'd buy one.

Curse of Enchantia

Sucked into the cursed land of Enchantia, Brad finds himself chained and manacled inside a castle's dungeon. He escapes from the castle via a subterranean cave system and meets fortune tellers, magicians, dragons, elephant seals, fire demons plus many other colourful characters both friendly and otherwise!

Travel with Brad to the Valley of the Lost, the Ice Palace and the Graveyard in his quest to ensure his safe passage home.

Curse of Enchantia is available on Commodore Amiga 1 meg only) and IBM PC compatibles.

Screen shots from various formats.

CORE DESIGN LIMITED

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Now the fun

fun school Specials

Three brand new programs from the makers of Fun School

In response to consumer demand, a range of Fun School Specials has been developed to help children with specific areas of learning. Following the release of Fun School 4, parents and teachers have consistently requested products which focus on certain subjects in more depth – in particular spelling, maths and creativity skills.

The aim of the Fun School Specials is to complement children's school work. All the products comply fully with the National Curriculum syllabus.

Paint and Create

For five year olds and over

- **Paint and Create is designed to help children exercise and develop their creative talents.**
- **It consists of six entertaining activities, some with a practical bias, some which are pure fun.**
- **Programs within Paint and Create include Art Alive, Jigsaw, Music Maestro, Card Creator, Monster Maker and the Activity Menu (which allows access to all the other programs).**
- **Available for Amiga, PC and C64 cassette.**

ART ALIVE

Art Alive is an incredible art package specially designed for children – they can draw freehand or choose from a bank of pre-drawn pictures.

CARD CREATOR

Card Creator encourages children to design and produce their own eye-catching greetings cards for every occasion.

MUSIC MAESTRO

Let the music play! Using Music Maestro children can create their own band from a choice of players and make sweet music.

really begins!

Spelling FAIR

For 7 to 13 year olds

- A unique package designed to help children master basic spelling techniques.
- The six programs within the package are set in a colourful fairground and incorporate the essential "fun" element that has made the Fun School products so popular.
- Sixty levels of difficulty to suit children of all ages and abilities.
- The package incorporates a 3,000-word dictionary containing carefully-selected words which frequently cause children difficulty.
- Parents or teachers can easily create their own mini dictionary of words that require special attention.
- Special selection of words to cater for the needs of dyslexic children.
- Available for Amiga, PC and C64 cassette.

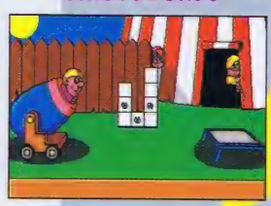
HAUNTED HOUSE

Haunted House helps extend a child's vocabulary, teaching all about homophones (their/there, caught/court etc).

TEST YOUR STRENGTH

Children use the hammer to bang the gong in Test Your Strength – and discover for themselves lots of unusual plurals.

CIRCUSWORDS

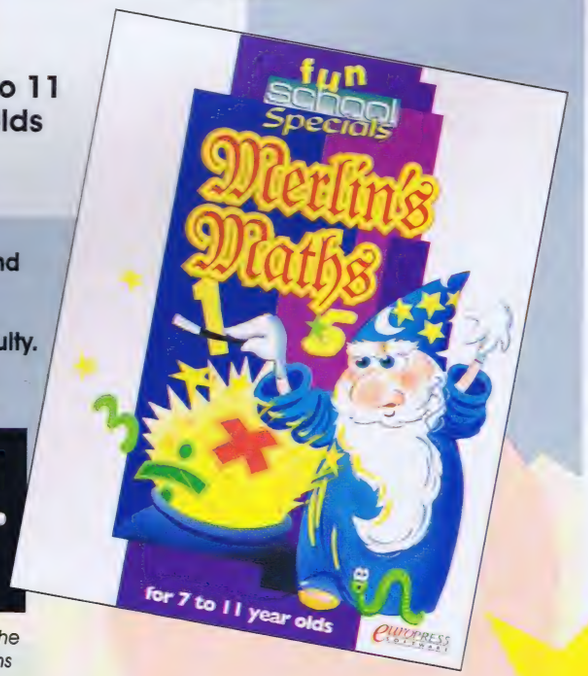


Circuswords: Children will love seeing the human cannonball come to life as they complete crosswords using both new and familiar words.

Merlin's Maths

For 7 to 11 year olds

- Merlin the Wizard guides the child through exercises in counting, decimals, fractions, adding, subtracting and volumes.
- Merlin's Maths combines the essentials of eye-catching graphics and rewarding sequences to keep children amused while they learn.
- Each program within Merlin's Maths has at least three levels of difficulty.
- Available for Amiga and PC.



BROKEN BATTLEMENTS

Help Merlin build the castle wall by completing counting, adding and multiplication calculations in Broken Battlements.

CRYSTAL CONFERENCE

Crystal Conference: Get the sums right and watch the knights of the round table enjoy their banquet.

MERLIN'S MATHS

Merlin the wizard guides the child through the programs in Merlin's Maths.

europress SOFTWARE

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CDTV, the Amiga that plays Compact Discs, was first announced by Commodore in June 1990 but didn't go on sale until more than a year later. Now, with CD-ROM drives available for the A500 (and soon for the 600) it's possible that the CD Amiga's time has come at long last. **Damien Noonan** reveals why...

1993 The year of Amiga CD?

***Amiga Format* Issue 32 featured this stunning illustration on its cover – a taster for the comprehensive review of available titles within.**

THREE THINGS YOU ought to know about Compact Discs. One: before very long, most entertainment software will be released on CD rather than floppy disk or cartridge, because the software publishers want it that way. Two: the Amiga is currently the only home computer that can play software from CD. Three: as a result of the previous two points, the Amiga could be the leading computer entertainment format by the start of 1994.

Only in the last couple of months has it become clear how important CD could be to the Amiga. Yet, even from the initial announcement, the rhetoric surrounding the first CD-driven Amiga, the CDTV, was revolutionary and even visionary in its terms.

Over the last two and a half years, the picture has slowly changed. Where first it was real head-in-the-clouds, idealistic stuff, it's now become a common-sense, down-to-earth tale of economics and practicality. The story of the CD Amiga is the story of a fascinating learning period for the computer industry, during which a lot of airy ideas have fallen by the wayside. Yet the message remains the same: that CD is the future of home entertainment...

As we go to press, news is leaking out that Commodore is about to drop the price of the CDTV down to £399 for the basic keyboardless model. This actually begins to make it look like a pretty realistic proposition, especially because it's a price that reflects what CDTV really is: just an Amiga with a CD drive attached. We now know that this is sufficient in itself, yet when the CDTV first appeared it promised to be something much more radical.

It was at the Consumer Electronics Show in Chicago in June 1990 that Commodore first sprung the CDTV on an unsuspecting world. Rumours had been circulating for months that Commodore had been preparing a CD-ROM drive for the Amiga, and it was widely expected that a CD drive as an add-on for the A500 would be the upshot. But the CDTV seemed to be something much more ambitious.

> "It was widely believed that the one, single thing that intimidated most people about a computer was the keyboard. Remove the keyboard and you remove the last big barrier"

It eventually emerged that the CDTV was the product of an almost maverick research project initiated and carried through by a tiny group at Commodore's technical developments HQ in West Chester, Pennsylvania. Their idea had been to take an off-the-shelf CD drive and marry it to an Amiga, giving the advantage of massive data storage, 550Mb on a single Compact Disc.

But the intriguing aspect to the CDTV was what Commodore's marketing people had done to the Amiga-plus-CD concept. They decided to house it in a smart, square, black case so that it looked like a video recorder, not a computer. They removed the keyboard, replacing it instead with a simple remote control. And above all they refused, for a long, long time, to acknowledge that the CDTV was really an Amiga.

The way to make yourself unpopular with Commodore at the time was to say: "Yes, but it's just an Amiga with a CD drive in a black box, isn't it?" No, of course it wasn't, claimed Commodore. It was a CDTV. The word 'computer' was banned in connection with CDTV – when it went on sale, Commodore planned to make sure that electrical retailers placed it near the hi-fi and videos, not near the computers. The discs were to be referred to as 'titles', never as 'software'.

The concept behind CDTV was very much a product of its time, a time when the home computer scene was sure that big things were about to happen, but it didn't have the confidence that what it was selling in 1990 would still be widely acceptable in 1993. To understand CDTV, you have to understand this 'spirit of the age'.

Computers and video games enjoyed a boom in the early Eighties and then waned in popularity, but in 1990 everyone was utterly certain that the next boom was on the way. Nintendo games consoles were already beginning to make a massive impact in the United States – they were the best-selling toy; they even had their own breakfast cereals.

Everyone looked to Japan, where a games console was to be found in almost every home alongside the TV, hi-fi and video recorder. Everyone dreamed of the same happening in Europe and the profits it would bring.

Now, in 1992, we've seen the computer games boom happen. We've seen the pop music world worry about video games replacing pop music, we've seen the major national newspapers desperate for tie-ins with computer games characters like Nintendo's Mario, we've seen a Channel 4 television programme about computer games enjoy a surprise success with an audience of millions. And we've seen all this happen with the same, ordinary Sega and Nintendo games consoles that you could have bought five years ago.

But back then in 1990, it was widely believed that it wasn't that simple. Studying the way America fell to Nintendo, most manufacturers believed that the battle in Europe would be a battle for out-and-out domination by just one format. And everyone was hoping that it would be theirs.

Commodore had another problem in mind, too. It was becoming obvious that people were getting used to computers as a form of entertainment and that there was no good reason why you couldn't persuade all the people who owned video recorders to buy a computer entertainment system too. Except for one major problem. It was widely believed that the one, single thing which most intimidated people about a computer was the keyboard. Remove the keyboard and you would remove the last big barrier against 'those horrible computer things'. Go one step further by making your machine look like the familiar video recorder, and everything should fall into place.

> "In a few years' time there will be a massive shake-out in the (computer games) industry. Costs will rocket, games will become multi-million-dollar productions"

Phil Adams, Spectrum Holobyte president, predicting in 1988 that CD would make software production more like movie-making

> "This will change forever the way we communicate, learn and entertain. The system will be used for reference works, special interest areas, surrogate travel, music, entertainment – and when we abandon the high ground, it will play one hell of a game"

Commodore executives at launch of CDTV, Chicago, June 1990

> "This is one small step for Commodore, one giant leap for the Amiga"

Anonymous Amiga developer after the launch of CDTV

> "Some manufacturers put 68000s in washing machines – that doesn't make them Amigas with tumbledriers"

Head of Next Technology, who created the CDTV 'Welcome' disc, denying that the CDTV is just an Amiga with a CD drive attached

> "CDTV has the potential to become a new standard home appliance, as ubiquitous as the VCR"

Gail Wellington of Commodore's Special Projects Division, who headed the team that developed CDTV

> "When it comes to camcorders, £700 buys a basic unit and they sell very well. At the price, the facilities offered by CDTV virtually ensure its success in the high street"

A Dixons manager on the potential success of CDTV when it was suggested it would have a £699 launch price, October 1990

Commodore had one other barrier to break down. Using the innovative CD-ROM storage gave the machine an immense advantage in being able to do more than just play arcade games. The kids may nag for a Nintendo, but how sympathetic were parents who had been led to believe that video games were some kind of moral disaster area, corrupting our nation's youth? However, if you showed that you could produce software that had an educational value, too, and even software that might appeal to the parents' more old-fashioned hobbies, you might be on to a winner. CD would make this possible.

And so it was that what could have been an Amiga with a CD drive ended up as Commodore's bid for domination in the living rooms of the world. With serious reference titles as well as 'entertainment' products, with computer capabilities disguised in a video case, with that frightening keyboard replaced by a familiar remote control, its marketing concept was all there.

The finishing touch was the name. It mattered not at all that the letters stood, in theory, for Commodore Dynamic Total Vision. This was all-too-obviously made up to justify the four-letter abbreviation CDTV. A pairing of two concepts familiar to the electronics consumer, CD and TV, with the implication that this was an all-powerful alliance.

Commodore all but turned its back on the Amiga, which had saved the ailing company, and strode boldly off in the direction of the 'mass market'. Commodore was off to sell the CDTV to people who would never have considered buying an Amiga. But almost immediately, it came up against a problem which it hadn't even considered. So busily had Commodore been defining what a CDTV *wasn't*, it failed to realise that it was going to have extreme trouble explaining to technologically ignorant consumers what a CDTV *was*.

Possibly this confusion was already in evidence at the Chicago launch, where hard facts about the CDTV's capabilities were replaced by hyperbole from the Commodore powers that be. There was an unhealthy emphasis on social revolution. Irving Gould himself, Chairman and leading light of Commodore, claimed: "This will change for ever the way we communicate, learn and entertain," while Nolan Bushnell commented: "Books were great in their day, but books right now don't cut it – they're obsolete".

CDTV finally went on sale in May 1991 at £599, £100 cheaper than originally expected. Considering that it was an amalgam of existing technologies the delay seemed strange, but it was explicable by the time needed to develop special CDTV software. Even for the first few weeks on the shelves, the two discs that were supposed to come free with the machine – *Lemmings* and *The Hutchinson Encyclopaedia* – were unavailable and were represented by tokens that customers had to send away to get the discs, when they were ready.

The fact that you could buy a machine for £600 and have nothing to play on it seemed to exemplify the failed aims of CDTV. A massive advertising campaign (by Commodore standards) was based around the line "It's nothing short of revolutionary" and tried to suggest the manifold multimedia possibilities of CDTV without ever quite putting its finger on what the machine *actually did*.

Commodore courted hi-fi magazines and national newspapers, hoping they might get excited about this 'new kind of CD player', while avoiding the computer magazines. ***Amiga Format*** was unable to get a review model CDTV, although in the end we became the first computer magazine to review it by getting hold of one via a developer.

By late 1991 only a few thousand CDTVs had been sold, nowhere near enough to repay the advertising spend and, if our readers' letters were anything to go by, these were almost certainly bought by Amiga owners. Then, suddenly, there was a change of heart from Commodore. In November, at the World of Commodore Show, it unveiled a new advertising campaign in which the CDTV had been subtly renamed Amiga CDTV. Perhaps by catching on to technologically aware Amiga owners, who appreciated the idea of a CD-driven Amiga, the word could be spread.

Last Christmas, while the Amiga was once again topping all its previous sales records, CDTV still did not pick up. In early 1992 Commodore went the whole hog with the admission that the CDTV was an Amiga, releasing the Home Multimedia Pack – a CDTV complete with matching black keyboard and disk drive – with a £599 price-tag. But it didn't stop CDTV drifting gradually into the background.

Meanwhile, we were all eagerly awaiting the release of the CD-ROM drive for the A500, which was due to be called the A690. In January this year, we expected to have a review model delivered by Commodore. In the end we got our hands on an advance production model, a lot more finished than the prototype, but it still didn't work. We were still able to print the first ever photograph of it in our February issue. The following month it became evident that the drive was to be renamed the A570 and would only work with machines that had 1Mb of chip RAM, which basically meant A500 Pluses.

By Issue 36 of the magazine, July 1992, we had a review model A570. Then we were told it wasn't finished, and our test model was only a 'preview sample'. Not until Issue 39, October 1992, did we finally have a finished, production-model A570 to test. The price was set at £349 and, despite the ridiculous fact that the A500 was no longer on sale, having been replaced by the A600, our reviews editor Neil Jackson was convinced that the A570 is a worthwhile purchase.

By this stage, however, the debate had moved on. Kelly Sumner, a vibrant 31-year-old who has worked for Commodore for his entire career, took over as MD of Commodore UK. We went up to interview him, and Kelly made it quite clear that Commodore was committed to seeing the future of the Amiga as a CD-driven machine.

The A570 CD-ROM drive brings the power of CD to A500 owners. An A670 for the A600 is expected before Christmas.

> "Would you upgrade to CDTV if it cost more than £300? YES – 50%"

Result from survey of readers conducted in November 1990

> "Will you buy a CD-ROM drive for your Amiga? (The price is currently expected to be around £300: it will play CDTV discs and audio CDs.) DEFINITELY – 5% POSSIBLY – 35%"

Result from survey of readers conducted in March 1991

> "I would say we confidently expect to sell in the 20,000 to 30,000 region"

Commodore UK boss Kelly Sumner on prospects for the £349 A570 CD drive in the first six months on sale, up to Christmas '92

"We have been speaking to all the major software houses over the last month or two, and I think CD really has to be the way to go," explained Kelly. "If you look at the price of a Sega or Nintendo cartridge, it's very expensive. Any cartridge is always going to be more expensive, and it has a longer lead time. You can press a CD in 48 hours, but a ROM cartridge takes three months. And that has lots of implications as far as software houses are concerned."

Software publishers we've spoken to seem to agree. Some are considering pulling out of all cartridge-based products, others look forward to being able to sell games at £20 on CD. With CD making piracy less practicable, with prices coming down and therefore sales going up, and with the financial advantages of CD (cheap production and easier management of cashflow), the software houses have every incentive to force the hardware manufacturers' hands on the CD issue.

There's been a pattern, then, to the two-and-a half years of CDTV's existence. The rhetoric of revolution has faded, the ambition to produce software that changes the world has disappeared. Slowly it's become obvious that CD is still the way ahead, but for different reasons. We'll still have the same old games, but we'll buy them on CD rather than floppy. The economics of the games industry will improve, the price of games will come down.

And, of course, this reduction to the basics does not mean that the ambition has faded. We're still likely to see some impressive new departures in software, as people start using a bit more of the 550Mb available on a CD. Over the last year, development work has been going ahead on CD-based software that will restore much of the original 'Wow!' factor with which the Amiga stunned people five years ago. Just wait and see – there's impressive stuff on the way in '93.

Other major advances could still be in the pipeline. The Motion Picture Expert Group (MPEG) has now defined a world-wide standard data compression method that will make it possible for videos to be played from CD. The so-called FMV (full-motion video) standard could also be used to put film footage in games, and the technology that makes it possible will no doubt be incorporated into the Amiga CDTV at some stage. And then it could be computer, audio CD player and video player all rolled into one.

But expect at least one big change in 1993. By next Christmas, the basic Amiga is likely to incorporate the double-A chip set from the Amiga 4000 and – this is the fun bit – to have a CD drive instead of a floppy disk drive. As changes go, they hardly come any more significant than this. Just wait and see.

The news quiz

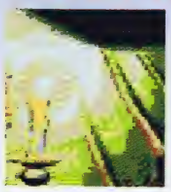
1992 was a long year. It had one more day than most others and it had more than its fair share of incident. How much can you remember? Get all 101 answers and win a subscription to **Amiga Format**...

Here are 101 questions that should tax your brain, and your back issues of *Amiga Format* for the next few weeks until the next Special Edition hits the newsstands. Ten erudite readers will win a year's subscription to the magazine, so get puzzling. Or you and your friends could just have a go at it for fun. Whatever you fancy.

The majority of questions are Amiga-related, but we've also dropped in a few current affairs posers so you can get the entire family involved.

Send your answers to The News Quiz, *Amiga Format Specials*, 29 Monmouth Street, Bath, Avon BA1 2DL. Answers should be received by Monday December 14. All the normal rules apply, so no Future Employees get to enter, no correspondence will be entered into regarding this competition and, as usual, the editor's decision is incredibly final.

SPOT THE SHOT



1 Can you name the game from which this segment of a screenshot comes?

2 Approximately what is the maximum data storage capacity of a read-only Compact Disc? Give your answer in Megabytes.

3 Amiga manufacturer Commodore and leisure software publisher Psygnosis collaborated on a CD game called *Microcosm*: name a film that has a similar theme to the game?

4 Racer Nigel Mansell won the Formula 1 world championship, then announced his retirement from the sport. What is the name of the last British driver to do that?
(a) James Hunt
(b) Stirling Moss
(c) Jackie Stewart

WHO OR WHAT?

5 What is the name of the model of Amiga pictured?

6 Issue 36 of *Amiga Format* certainly had a lot of news to report – and was first with all the important stuff, as per. But what superb software package was given away with it as part of the *Amiga Format Collection?*

7 How many copies does *Amiga Format* officially sell on average each month, according to the Audit Bureau of Circulation?

8 How many gold medals did Great Britain manage to pick up at this year's Olympics Games?

9 In what capacity is the former managing director of Commodore UK, Steve Franklin, now working?

10 In which countries is Commodore now manufacturing the Amiga?

11 *Psycho Killer*, Snoopy, Barney Bear and Asterix the Gaul all have something in common. What is it?

SPOT THE SHOT

12 Can you name the game from which this segment of a screenshot comes?

SPOT THE SHOT

13 Can you name the game from which this segment of a screenshot comes?

14 Former Tory MP Chris Patten lost his parliamentary seat at the general election. What is he doing now?
(a) Governor of Hong Kong
(b) Governor of the Bank Of England
(c) Nothing

15 Commodore launched two models of the A600 this year. There's one significant difference between them – what is it?

16 What are the names of the new A600's custom chips?

17 What did EC member Great Britain pull out of in September?
(a) The Olympics
(b) The Exchange Rate Mechanism
(c) The Eurovision Song Contest

18 What did the British Home Secretary not do for Derek Bentley?

WHO OR WHAT?

19 What is the name of the device pictured?

20 The first *Amiga Format* Special Edition was the *Complete Software Guide*. The one you're reading is *The Annual '93*. So what's the next one going to be?

21 Commodore's proper company name has the initials CBM. What do the B and the M stand for?

22 Commodore's Amiga CDTV system can play back sounds and images that have been stored on Compact Disc via your television set. So what does CDTV stand for?

23 Anyone using their Amiga for anything beyond the rudimentary will have come across the CLI. What do those letters stand for?

24 The compact cassette and Compact Disc were both pioneered by which well-known Dutch company?

25 A past issue of *Amiga Format* provided 'your guarantee of *Lemmings*'. What was the issue number?

26 American hardware manufacturer GVP is renowned for its particularly excellent hard drives. What is the company's name in full?

WHO OR WHAT?

27 Who is the dashing young chap pictured with Steve Franklin?

28 Todd Rundgren produces his rock videos using Amigas. What was the name of his former band?
(a) Inertia
(b) Utopia
(c) Metallica

29 Graphics fans will have come across the letters IFF. What do they stand for?
(a) Interchange File Format
(b) Indefinite File Format
(c) Insidious File Format

30 Electronic Arts' *Deluxe Paint* series features the death mask of a famous former Egyptian king. What does this king have in common with Batman?

31 Here's one for the visually aware – if the British have got PAL, then what have the Americans got?

SPOT THE SHOT

32 Can you name the game from which this segment of a screenshot comes?

33 The A600 features a PCMCIA card slot in the side of the casing. What do the letters PCMCIA stand for?

34 Why would a Spaniard look at you strangely if you said you had been up all night playing with your Amiga?

35 What effect did media baron Robert Maxwell's lack of buoyancy have on the software world?

36 Comedian Frankie Howerd died this year. What character did he play in the TV hit series *Up Pompeii*?

37 The *Amiga Format* cow is writer Brian Larkman's pet way of demonstrating the amazing 3D modelling capabilities of the Amiga. Which issue of the magazine featured it on the cover?

38 Justified chart toppers The KLF disbanded amid great secrecy this year. What does KLF stand for?
(a) Klu Liberation Front
(b) Kilmarnock Liberation Front
(c) Kopyright Liberation Front

39 The clock speed, usually measured in MegaHertz, is the speed at which the Amiga's CPU can process data. What is the speed of a standard A500 CPU?

40 Future Publishing, the company that brings you *Amiga Format* each and every month, is based in Bath. Name a Bath-based travel firm that went bust this year.

41 What graphic is missing from Workbench 2's 'insert disk' screen that you would have been able to find on Workbench 1.3's?

42 Pop duo Urban Shakedown, featured in *Amiga Format* issue 37, achieved chart success this year with which single?

WHO OR WHAT?

43 What is the name of the model of printer pictured?

44 What piece of hardware do you need so you can link your Amiga to a video signal source?

45 What prayer did pop star David Bowie say at former Queen lead singer Freddie Mercury's memorial concert?

46 Which software package was awarded *Amiga Format*'s highest-ever rating of 97 per cent in the November 1992 issue?

SPOT THE SHOT

47 Can you name the game from which this segment of a screenshot comes?

48 On March 6, a particularly nasty computer virus activated itself. The date is the birthday of a famous artist after which the virus was named. What's his name?
(a) Michelangelo
(b) Salvador Dali
(c) Andy Warhol

49 Commodore's A570 CD-ROM drive was originally to be called something else. What was it?

50 What was the A600 originally to be called? Hint: lettering on the circuit board gives the game away.

51 *Amiga Format* staff writer Andrew Nuttall was appointed to the title this year. What is his nickname?

WHO OR WHAT?

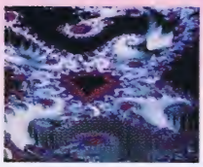
52 What is the name of this intriguing looking fellow?

53 Which BBC soap opera, premiered this year, depicts the lives of a bunch of ordinary folk who happen to live in a Mediterranean holiday resort?

54 Which Formula 1 motor racing champion offered to race for the Williams team next year for no money whatsoever?

55 The Future Entertainment Show, featuring your very own *Amiga Format*, is to be held on November 5-8 at a famous venue in London. The name of the venue is...

WHO OR WHAT?



56 Here's a mathematically generated picture. What are its components?

(a) Raymond Revue Bar
(b) Earls Court
(c) Elephant and Castle

57 Classic space trading game *Elite* is shortly to be followed by *Elite 2*. Name the chap who is developing it.

58 Most dot matrix printers are capable of printing in NLQ mode. What do the letters NLQ stand for?

59 Collectors of public domain software should be familiar with a chap who goes by the name of Mr Fish. What is his first name?
(a) Michael
(b) Fred
(c) Floyd

60 From which team did Blackburn Rovers manager Kenny Dalglish sign his star striker Alan Shearer?

61 Which (dead) film star graced the cover of *Amiga Format* in 1992?

SPOT THE SHOT

62 Can you name the game from which this segment of a screenshot comes?

63 What frequency of laser light is used to read information from a Compact Disc?
(a) Ultra violet
(b) Infra red
(c) Sparkling orange

64 Which development house produced the fabulous dungeon adventure *Eye of the Beholder 2*?

65 Can you name the female who replaced Gary in the A600?

66 Which first-division football team is sponsored by Commodore and is also Prime Minister John Major's favourite team?
(a) Chelsea
(b) Arsenal
(c) Accrington Stanley

67 This famous cartoon cat was used on the cover of *Amiga Format* issue 33 – an animation special. What is the moggy's name?

68 TV show *Gamesmaster* has proved such an enormous hit that Future Publishing is launching an eponymous magazine to go with the programme. What is the name of the show's Scottish presenter?

69 Name the person who's credited with programming Virgin's remarkably realistic snooker simulation *Jimmy White's Whirlwind Snooker*.

70 From which State does the American presidential candidate Ross Perot originate?
(a) Britain
(b) Kansas
(c) Texas

71 Three letters were used to replace four in the new A600. If the four are SCSI, what are the three?

72 What do Eric Schwartz, Tobias Richter and Walt Disney all have in common, aside from their rather unusual surnames?

WHO OR WHAT?

73 What is the name of the Amiga artist pictured?

74 Jimmy Connors recently won a tennis match in straight sets without using his second services. What is the name of his unfortunate opponent?

75 Who, or what, are known as the Rexxons?

SPOT THE SHOT

76 Can you name the game from which this segment of a screenshot comes?

77 For which county did the former golden boy of English cricket Ian Botham play in the 1991-92 season?
(a) Durham
(b) Somerset
(c) Cornwall

78 In which film does Harrison Ford play a former CIA man being hunted down by a gang of renegade Irish terrorists intent on exacting a terrible revenge?
(a) Patriot Games
(b) A League Of Their Own
(c) Unforgiven

79 The group of researchers who have been busy pioneering the development of video on CDTV are known collectively as MPEG. What do those initials stand for?

80 Product placement has been creeping into video games recently. Do you know which well-known product forms part of the scenery in Millennium's *James Pond 2: Robocod*?

SPOT THE SHOT

81 Can you name the game from which this segment of a screenshot comes?

82 What was the name of the actress with whom the former 'Minister of Fun', David Mellor, had an extremely well-documented affair?

83 Who is the head of Commodore worldwide?

84 Former bench engineer Kelly Sumner is now the managing director of Commodore UK. Which computer did he first work on as an engineer?

WHO OR WHAT?

85 What is the name of this innovative game designer ?

86 Which businessman had the extremely dubious honour of being declared the UK's biggest-ever bankrupt?

87 What do the initials FAST stand for and what is the purpose of the organisation?

88 Which Italian football club bought Paul Gascoigne from Tottenham Hotspur for £5 million, even though he had badly injured his knee ligaments?
(a) Lazio
(b) Inter Milan
(c) Real Madrid

89 MIDI is a standard code by which MIDI-equipped devices can communicate with each other (like a computer and a synthesiser). What do the letters MIDI stand for?

90 Who took over as captain of the England football team after Gary Lineker decided to quit the domestic game and start a new career in Japan?
(a) Vinny Jones
(b) Stuart Pearce
(c) Chris Waddle

91 Who or what was FMG and what or who replaced them?

SPOT THE SHOT

92 Can you name the game from which this segment of a screenshot comes?

93 What is the real name of 'The Sinner From Pinner', an actress dubbed such by the tabloid press for her steamy performance in the erotic, but otherwise fiendishly boring, film *The Lover*?

94 Which national football team were last-minute entrants for the European Football Championships and ended up winning the competition after all?
(a) Denmark
(b) Iceland
(c) England

95 Meet platform hero Zool. He proved rather popular with the *Amiga Format* review team. What percentage rating did they give Gremlin's *Zool* ?

96 The Steven Spielberg film *Hook* and the Ocean computer game of the same name are both based on a famous book. Who is the book's author?
(a) J M Barrie
(b) D H Lawrence
(c) Jeffrey Archer

97 What is the name of the film in which Madonna plays a member of an all-woman baseball team?
(a) Patriot Games
(b) A League Of Their Own
(c) Unforgiven

98 Which top American hardware manufacturer, which makes the extraordinary 68040 accelerator for the A500, lost a huge amount of stock when a fire recently destroyed its warehouse?

99 Which former Olympic middle distance medallist was elected as a Conservative Member of Parliament in the 1992 General Election?
(a) Steve Ovett
(b) Seb Coe
(c) Roger Bannister

100 Christopher Columbus is generally held responsible for discovering America, the country that brought the world Big Macs, Ronald Reagan and Zippo cigarette lighters. In which year did Columbus stumble across the continent of America?
(a) 1492
(b) 1429
(c) 1664

WHO OR WHAT?

101 What is the name of this Greek character?

So there you have it then, the *Amiga Format* quiz of the year. You've got a few weeks to think about the answers (don't forget, the closing date is December 14), but take heart; most of them are in this special edition of *Amiga Format*. or in previous issues of the magazine. Well except for the general knowledge ones – but even we can get most of those.

There are 10 subscriptions up for grabs – that's 12 free issues of the world's best Amiga magazine (oh, and we're the world's biggest Amiga magazine as well) for the people who get all 101 right.

If, by some freak of chance, no one gets all 101 answers right, we will look at the next best and so on... So there is an outside chance that you might win a year's subscription even if you don't get every single answer correct.

Please make sure, for the sake of the poor old judges who'll be trawling through all the entries, that you number all of your answers clearly, including the Spot the Shots, the Who or What's, along with the questions given in the picture captions. And try to keep your answers as legible as possible because unreadable entries will be non-prize-winning entries – perhaps it's time to get that printer hooked up and send your answers in on a printout.

The winners' names will be published in the February edition of *Amiga Format*, so keep your eyes peeled when it comes out. We hope you have as much fun with this quiz as we had compiling it. Good luck

If there's one thing we can absolutely rely on, it's that the CD is the way to go. That's the opinion of **Damien Noonan**, editor of **Amiga Format**. But why so sure...?

"CD is here – no question"

TWO LITTLE LETTERS are going to change the way we think about the Amiga over the next couple of years... and those two little letters are 'CD'. The Compact Disc Revolution is just around the corner.

"But they've been saying that for ages!" you protest. Fair enough, they have. They were talking about technology, they were talking about ideas, they were talking about concepts and ambitions. But I'm not. I'm talking about something a little more concrete.

I recently spent a long afternoon discussing the future of the Amiga and drinking with Kelly Sumner, who took over as managing director of Commodore UK just a few short months ago. He's confident and buoyant at the moment, like the cat that got the cream, and the longer you talk with him, the more you can see why.

It's almost as if a long, secret plan by Commodore is coming to fruition and the company is slowly realising, day by day, that nothing can stop it now. You can see a pattern emerging as suddenly all kinds of decisions make sense. And you can imagine everyone else looking back in six months' time and realising they've been outsmarted. When others kick themselves, Commodore will be sitting there looking very, very smug.

Kelly is not a man for shades of grey and his favourite phrase right now, though I don't think he realises it, is "No question". It usually follows a sweeping generalisation so vast that you'd imagine there was plenty to question. But not for Kelly.

And just a part of his message is that CD is the future of the Amiga. No question.

To understand why, you don't have to go deep into the technological side of leisure computing at all. But to understand it in all its detail, it's worth knowing a little bit about why the CD has been hailed, in the past, as the medium of the future.

Essentially, the main advantage is simply storage space. A music CD works digitally, so it's a logical step to put data on one, and when you do you discover that it will store about 550Mb of information – the equivalent of 640 Amiga 880K floppy disks – it's obviously the only choice.

It's what you can do with all this storage space that's important, though. It offers masses of room for graphics, sound and animation which basically means that games like the fabulous *Secret of Monkey Island* could be done with full audio, full lip-sync – in other words, much like movies. That's why a film-making firm like Lucasfilm (now LucasArts) got involved in games in the first place.

Right, so technologically CD might be desirable because it makes all kinds of things possible. Until a few months ago, that might have been enough to explain why Commodore had worked so hard to bring out the Amiga CDTV and the A570 CD-ROM drive for the A500. But not any more. Not while Kelly's looking so smug.

No, let's get down to harsh economic realities. That, after all, is what is going to make the difference in the long run. Yep, money might not be able to buy you love, but it sure makes the world go round...

Let's leave behind our narrow view of the Amiga for a moment and take a look at the computer games scene as a whole. If you were looking in from the outside, where would you imagine all the money was being made and all the games were being sold in 1992? You would have to say the Sega and Nintendo consoles, of course.

Over the last couple of years, more and more games publishers have flocked to join the console publishing scene. But it's not easy, because both major console manufacturers keep tight control over how and when games for their machines are published.

So if you're a software publisher and you want your game to appear and sell well on a console, you find that the console makers hold all the ace cards. First off they have to approve your game. Then only they are allowed to actually manufacture the cartridge on which the software comes, so you have to buy it from them at their price. It proves expensive and time-consuming, but you don't necessarily mind them having a monopoly.

> "One major software house told me that it would not work on any more software for cartridge formats once its last title was finished in September. And there's evidence of other softies being disillusioned with cart publishing"

You don't mind, that is, as long as you've got a good chance of making more money than you were when you were publishing software on cassettes and floppy disks. The computer scene was (and still is) rife with piracy, which meant sales of only a couple of thousand copies on many of your floppy-based games. Anything's better than that.

And then along comes someone and simply points out that you could be publishing your games on CD instead. Suddenly you realise that while you'll never go back to floppy disks, there is a lucrative alternative to cartridge software.

Where a cartridge could cost you in the region of eight quid just to produce, a CD can be mastered and packaged for £1.50. Where you have to order cartridges six months in advance, a CD can be produced and on sale inside a couple of weeks. And, most importantly, where an overestimate of ten per cent in how many cartridges you order could mean your entire profit is wiped out – and if you under-order you don't have time to prepare more stocks – CD-based publishing is cheap enough and flexible enough for you to get it right, every time. Wow!

This isn't just speculation, either. One major UK software house told me that it would not work on any more software for cartridge formats once its last title was finished in September or October this year. And there's plenty of other evidence of software publishers being disillusioned with the financial restrictions of cartridge publishing.

So ask yourself this one question: which major computer format already has the capability of using programs published on CD? Yes, with the Amiga CDTV and the A570 CD drive and – "before Christmas", hopes Commodore – the A670 CD drive too, it's the Amiga. Of course.

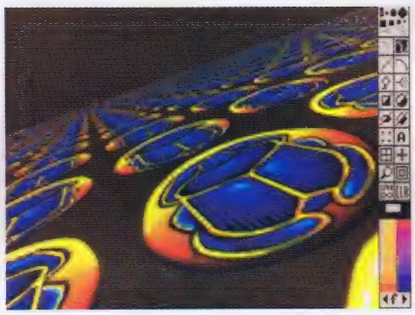
Now I'm not saying rush out and buy yourself a CD drive as soon as possible. I'm just saying be aware of what's going on.

We've been criticised for giving too much coverage to CD. It was even suggested to me by the representative of a major serious software publisher – though only in jest – that my Swiss bank account was benefiting from Commodore's generosity. I wish.

But I still think we're right to attach great importance to CD, because it's going to be big. Commodore has already suggested to us that it would be possible to produce a machine with a CD drive rather than a floppy disk drive, and for the same price. It might not happen until this time next year. But it will happen. No question.

The new HAM-supporting DeluxePaint® IV will do more than turn a few heads.

It will also turn them inside out, upside down, spin them on an axis, or metamorphosise them into hairy rock stars before you can say "Tutankhamen".



With Hold And Modify (HAM) video mode, DeluxePaint IV offers a staggering 4096 colours. This means gradients that are smoother, more versatile and easier to define.

Not only can you paint in HAM, you can animate in it, too. Imagine brilliant images, rendered in 4096 colours, moving effortlessly across the screen.

DeluxePaint IV makes animation easy for you.
The special LightTable feature allows you to review the last frame of animation while previewing the next.
Or choose two different images - say a caterpillar and a butterfly - and DeluxePaint IV will carry out an amazing metamorphosis between them in as many frames as you wish.
All these features are directed from a new video-style Animation Control that makes animating as easy as pressing a button.

So whether painting or animating, you can now achieve smooth, seamless effects of unbelievable subtlety.

But don't take our word for it.
Steve Franklin, Managing Director of Commodore Business Machines, described DeluxePaint IV as *"a stunning innovation and probably the best software package for this market"*.

Available 27th September 1991

£89.99

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TO UPGRADE from previous versions of DeluxePaint, send the front cover of your manual with a cheque, postal order or credit card details including expiry date to the Direct Sales Department at Electronic Arts Ltd. An upgrade from DeluxePaint I costs £65, from II costs £55 and from III £45. Call 0753 549442 for details of this and the special videos which will help you make the most of DeluxePaint IV.

Andy Storer examines the US Amiga scene and reveals just why Commodore laucnhed its 68040-based A4000 with the new chip set over there...

The Amiga in America

Launched at the World of Commodore expo in Pasedena, California, this is Commodore's new, more powerful and expandable A4000.

IN AMERICA PEOPLE take their Amigas very seriously indeed. Amiga games play second-fiddle to professional, or should we say 'serious', Amiga software and hardware. Talk to an American computer games enthusiast and he or she will rant on profusely about video games and basically how one company – Nintendo – totally dominates the market. Sega comes a very poor second, and the Amiga probably doesn't figure in the running. But that doesn't mean that the Amiga hasn't got a significant following in the States, it's just that to the Yanks the Amiga is seen more as a serious, semi-professional machine.

If you take time to flick through a few back issues of ***Amiga Format***, it won't take you long to realise that the majority of serious products come from the other side of the Atlantic: *Professional Page*, *PageStream*, *Imagine*, Video Toaster, GVP hard drives, *ProWrite*, *Art Department Pro*, *Presentation Master*, *Caligari* and AMax-II, to name but a few. It's because the Amiga has such a widespread and dedicated professional-base that so many US firms manage to produce such quality products.

The A600 has recently been released in the States. Two packages it's being bundled with are HoloSoft's *Graphics Workshop* and Domark's *MicroText*.

So, because there is less of an emphasis on games, there is a different policy by which Amigas are released in the States. You may be surprised to hear that in the US the A500 Plus and the A1500 have never even been launched, the A600 and A570 have only just arrived and yet the new A4000/40 was released two months before it was launched in the UK. The number of Amigas in homes in the US is only 15% of the number in Europe and the figures also show that 90 per cent of these are A2000s and A3000s. By contrast, in the UK 1.2 million machines have been sold since 1986 and 95 per cent of those are A500s.

> "The A4000 is our most exciting product ever – it's the ultimate in Amiga power"
> Jim Dionne, President of Commodore US

These statistics reinforce the fundamental differences between the American Amiga market and our own, and those differences underpin the ways in which the machines are used, and subsequently the kind of peripheral hardware and applications software that's developed – and, ultimately, the kind of Amiga you have on your desk now and what you may have in the future. Because, numbers aside, the American market is what defines the state of the Amiga art in all its forms.

The fact that Commodore is based in the US, along with most of the leading developers, means the light in which the US market is perceived dictates the design for current and future Amiga models.

Take the brand-new A4000 for instance. How many of these powerful graphics workstations do you think will sell in the UK? A few hundred at best? Maybe a thousand tops. In the States, it will probably sell tens of thousands. The reason is quite simple – the Amiga is a low-cost graphics workstation that's the best deal in town in America when it comes to broadcast video and animation, and that's precisely why it has become so important over there.

Although the Amiga has markets in business software, sampling and sequencing, they

are not what has made the Amiga big on the other side of the Atlantic. Over there video graphics is where it's at and that's the Amiga's *forte*. It's a tool that professionals choose despite anything the competition offers.

The thing is, if you ask a computer-literate American what an Amiga is you'll just be met by a stony silence. There's only two or three national US magazines dedicated to the Amiga and these have paltry circulations, yet the Video Toaster, the top-notch video graphics board, has its own 150-page glossy magazine that's read by around 80,000 people

So why the big differences? After all, if the US is where the Amiga was born, where the main developers live and where the most prominent hardware and software companies package up your next purchase, why are there so few A500s, so many A2000s and so many Toaster users? The answers are largely to do with history and a little to do with technology.

Consider the success of the Amiga in the UK for a moment. What factors have combined to make it the biggest-selling home computer over here? Brilliant graphics? Yes. Great games? Yes. Best deal on the street for the price? Yes. More public domain software than any other machine? Yes. But all these factors are the same over in the States. So what's the difference? The answer lies in the history of competition. Because when you see that the competition comes from the likes of IBM, Apple Macintosh and Nintendo, you know Commodore will have had a tough job selling machines in their own country.

Over here all the Amiga had to knock on the head was the rather inferior 8-bit machines and the somewhat overrated Atari ST. The games companies saw to it that the Amiga would win hands-down in terms of graphics and sound, though it was possibly the wide availability of pirated games that was crucial. In the US, however, Commodore and its developers have been forced to tap into a niche market which IBM its PC-cloning followers, along with Apple and Nintendo, have been unable to exploit for technical reasons.

Nintendo has cornered the games arena, IBM the business sector and Apple the personal productivity market. Which leaves a couple of gaping holes: music and graphics. Apple, PC cloners and Atari have pretty much managed to fill the vacuum in the sound department, leaving only graphics, animation and video to Commodore. That's why so many American Amigas are A2000s and 3000s and why the Video Toaster's so popular. That's why there's so many accelerator boards and high-capacity hard drives, 24-bit graphics cards and image-processing packages coming out of there. And that's why there's so few A500s, no A500 Pluses and no A1500s.

> "Our key markets are videography, computer-based training, information kiosks and presentation systems"
> David Archambault, director of business marketing, Commodore US

Or compare it with the UK in another way. At September's World of Commodore expo in Pasedena, California, 30 of the 50 exhibitors showcased custom Amiga graphics hardware and software. The remainder were user groups, peripherals suppliers and desktop publishing/word processing purveyors. There wasn't a games software house anywhere in sight. And the only A500s on show were those fitted up with 68030 accelerator boards. The Amiga range is being firmly pitched at the burgeoning video, presentation, training and multimedia markets and the new A4000 is at the sharp end of Commodore's medium-term marketing strategy.

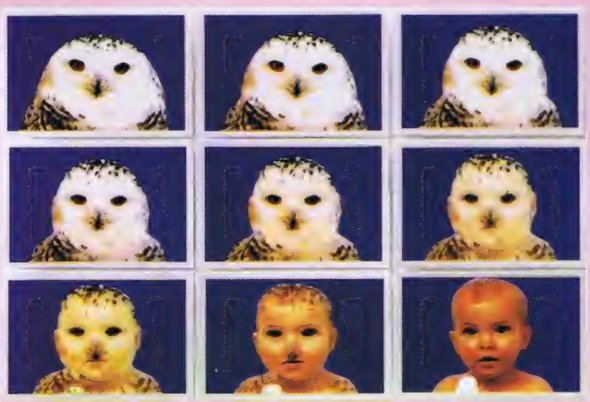
The Video Toaster, which enables amazing effects to be applied to video, has such a following in the US that a whole magazine is dedicated to it.

But if Commodore's prime targets in the USA are these power-hungry professional markets, why should it bother releasing the A600 in the States – an entry-level Amiga based on the slowest chip of the lot?

It's true that the company is leaving the bulk of low-end sales to the UK and Europe where it rightly expects the A600 to sell in droves. But unlike its British division, Commodore US is at least attempting to package the A600 as more than just a games machine. Potential US buyers can look forward to a basic A600 pack that includes the role-playing game *Myth*, and two arcade-based

Continued on page 48

IT'S AN OWL. NO IT'S A BABY. NO IT'S A MORPH...



***MorphPlus* from ASDG will soon be available in the UK. high-tech, cinematic special effects will then be at your fingertips.**

No doubt you've all seen *Terminator 2* or the Michael Jackson videos. If you have then chances are you will have been impressed by amazing visual effects as one shape changes into another.

A few years ago these kind of effects were beyond film makers' wildest dreams, but then they started using computers to do the huge quantities of calculation involved. Nowadays, however, the power to metamorphose cinematic images is starting to appear on the Amiga.

The next few months are to see the UK release of two very exciting products. Both *MorphPlus* from ASDG and *Cine Morph* from GVP will bring cinematic-quality 24-bit morphing to the Amiga. To really appreciate these effects you have to see them 'live'.

The big names in Amiga productivity come from the US. Here's a round-up of the leading practitioners pushing the boundaries of hardware and software...

Who's who and what they're up to

1 ASDG
LOCATION: MADISON, WISCONSIN

HOT PRODUCTS: *MORPHPLUS, ART DEPARTMENT PRO*

MorphPlus **is a stunning new still and full-motion morphing package which comes complete with interesting built-in video effects like warping, twirling, rotation, rippling and spherising.**

Check out the full review of *MorphPlus* in *Amiga Format* 42.

It can be either be used on its own or in conjunction with *Art Department Professional* which has rapidly become the state-of-the-art Amiga image-processing system. It comes with some excellent animation features, ARexx programmability, JPEG compression and built-in 24-bit printing. *ADP* also incorporates quite literally thousands of image-manipulation functions.

2 BLACK BELT SYSTEMS
LOCATION: GLASGOW, MONTANA

HOT PRODUCT: *IMAGEMASTER*

After the phenomenal success of its HAM-E extended graphics system for the Amiga, Black Belt is concentrating on *Imagemaster*, an advanced image-manipulation suite incorporating morphing capabilities, full 24-bit painting and processing facilities, image composition, analysis and extensive file-format conversion.

Along with 24-bit rendering of animated sequences, *Imagemaster* also features hundreds of other useful image effects.

3 CENTAUR
LOCATION: LAWNDALE CALIFORNIA

HOT PRODUCT: OPALVISION

Developer of the OpalVision 24-bit graphics and video system, Centaur delivers true 24-bit RGB graphics facilities including painting and image processing using *OpalPaint* software and presentation software in the form of the forthcoming *OpalPresents*.

Reviewed in Issue 41 of *Amiga Format*.

9 INOVATRONICS
LOCATION: DALLAS, TEXAS

HOT PRODUCT: *CANDO*

CanDo **was given away on the cover of *Amiga Format* 36.**

As a multimedia authoring platform, enabling users to build their own stand-alone Amiga applications incorporating any text, graphic and sound data, the only problem that people found with *CanDo* was its price. It wasn't that it was too expensive, the problem was that it cost too little and subsequently people thought it wasn't any good. However, as an *Amiga Format* reader you'll know all about its power because we gave it away on the cover of issue 36. The latest version, *CanDo 2*, is even more powerful.

12 OCTREE
LOCATION: NEW YORK, NEW YORK

HOT PRODUCTS: *CALIGARI 2, CALIGARI BROADCAST*

Caligari 2 **– probably the easiest program of its type to use.**

Caligari 2**, and its high-end version, *Caligari Broadcast* for accelerated Amigas, offer real-time 3D modelling, rendering and animation with what must be one of the easiest-to-use interfaces of any such product. All you do is get a simple shape, put it on the screen and drag it around until you've got it into the right shape for what you need – as simple as the principles behind Domark's *3D Construction Kit*. The neatest feature is the facility to manipulate fully rendered objects into animated sequences prior to ray-tracing.**

13 OXXI-AEGIS
LOCATION: LONG BEACH, CALIFORNIA

HOT PRODUCTS: *PRESENTATION MANAGER, SUPERBASE, VIDEOSTAGE*

With *Presentation Master* secured as one of the Amiga's leading packages for the automated storylining and design of slide and video presentations, Oxxi has now moved on to video titling and presentation with *VideoStage*.

This is much more of a post production tool, for editing and planning cuts between different scenes. Although this has been done, Oxxi is putting an awfully big effort into making its new program the best in terms of user friendliness and ease.

14 SCALA
LOCATION: RESTON, VIRGINIA

HOT PRODUCT: *SCALAMM200*

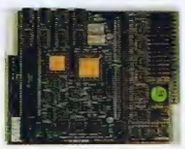
The update to the much-acclaimed *Scala, MM200* features even better multimedia authoring with full graphics, animation, soundtrack and special screen transitions (often just called wipes).

In addition, *MM200* can control external devices like the CDTV for playing normal music CDs, an ION still video camera, MIDI keyboards and synths and much, much more.

The idea is that you take all the elements and use them to produce combined 'multimedia' presentations for communicating ideas in a highly public, attractive way.

4 CSA
LOCATION: SAN DIEGO, CALIFORNIA

HOT PRODUCTS: MAGNUM 40/4, ROCKET LAUNCHER, MEGA MIDGET RACER, DERRINGER



The Mega Midget Racer accelerator.

CSA's claim to fame is its impressive range of accelerator cards for A500s and 2000s. The latest to be released, the $250 Derringer, plugs into an A500 and effectively transforms it into a powerful 25MHz 68030 A3000.

5 DIGITAL CREATIONS
LOCATION: RANCHO CORDOVA, CALIFORNIA

HOT PRODUCT: DCTV

DCTV, the excellent video digitiser and paint package.

With DCTV, stealing masses of magazine inches last year, Digital Creations is now extending its features with an RGB converter, making it possible to do mixed-mode presentations and use a genlock with DCTV. Seizing on the demand for pro-video Amiga hardware, Digital is also readying Kitchen Sync – a dual-channel time base corrector – and *Brilliance*, a new 24-bit paint package with morphing capability and rumoured to surpass *Deluxe Paint* in all departments.

6 GVP
LOCATION: KING OF PRUSSIA, PENNSYLVANIA

HOT PRODUCTS: IV-24, *CINEMORPH*, G-LOCK, PHONEPAK, A530

Following the success of its IV-24 board which features built-in genlock, 24-bit frame grabber, real-time framegrabber and 24-bit paint software, GVP has moved into morphing with *CineMorph*, which handles 24-bit animated sequences, and G-Lock, a low-cost PAL standard genlock with on-board audio and video processors, display enhancers and on-board effects software. Latest in line is PhonePak, an all-in-one fax, voice and answering machine on a single card.

7 GOLD DISK
LOCATION: TORRANCE, CALIFORNIA

HOT PRODUCTS: *PROFESSIONAL PAGE 3, PROFESSIONAL DRAW 3, VIDEO DIRECTOR, SHOWMAKER*

Multimedia goodies from Gold Disk.

King of Amiga productivity, Gold Disk has been busy extending its DTP prowess into the area of multimedia. New product *VideoDirector* is a low-cost editing system that will enable you to hook up your machine to a camcorder and VCR, while *ShowMaker* will enable you to take the results and sequence them up for multimedia presentations.

8 ICD
LOCATION: ROCKFORD, ILLINOIS

HOT PRODUCTS: ADSCSI, ADIDE, ADRAM, ADSPEED, TRIFECTA

ICD's most successful release has been Flicker Free Video 2, a display enhancer (flicker fixer) for all Amigas except the A600. FFV2 is a smart enhancer, in that it looks at the current screen mode and corrects automatically for interlaced and non-interlaced screens. It comes with *Video Prefs*, a small utility that lets you tweak your Amiga display to your viewing system. Following on from its low-cost power peripherals – SCSI and IDE adaptors, memory boards and accelerators – comes ICD's latest star performer. Trifecta is a single board for all Amigas which features a fast SCSI-2 controller and a16-bit IDE hard card.

10 NEW HORIZONS
LOCATION: AUSTIN, TEXAS

Hot products: PROWRITE 3.3, FLOW, QUICKWRITE, A-TALK III

Ideas will come flowing with *Flow*.

With *ProWrite* virtually established as *the* word processor for the Amiga, New Horizons has moved on through ideas processing (which is basically a thoughts organiser or outliner) with *Flow*, and into comms with the highly acclaimed *A-Talk III*

11 NEWTEK
LOCATION: TOPEKA, KANSAS

HOT PRODUCTS: DIGI-VIEW, VIDEO TOASTER

The Video Toaster – no PAL version yet.

Not content with bringing high-quality digitising to the Amiga with Digi-View, NewTek surpassed all expectations by launching Video Toaster. Boasting a vast array of digital video effects, Toaster transforms an A2000 into the edit controller of a $60,000 broadcast suite.

15 SOFT-LOGIK
LOCATION: ST.LOUIS, MISSOURI

HOT PRODUCTS: *PAGESTREAM, HOTLINKS EDITIONS, ART EXPRESSION*

The *Amiga Format* Gold-winning *PageStream 2.2*.

With Soft-Logik's desktop publishing package *PageStream* vying for market leadership with Gold Disk's *ProPage*, the company has upped the stakes with the introduction of *Hotlinks Editions*, which brings integration for built-in photo editors, text processor and outliners to automate DTP productions.

Soft-Logik is now shipping its new illustration package *Art Expression*, which offers sophisticated drawing features and special text placement effects.

16 SUNRIZE
LOCATION: CAMPBELL, CALIFORNIA

HOT PRODUCTS: AD516, *STUDIO 16*

AD516 is a 16-bit, stereo digital audio card – the only one on the Amiga market that features eight tracks – which, in conjunction with *Studio 16 2.0*, enables direct to hard disk recording with complete timecode support, giving users professional-standard audio recording.

Sunrize is to continue to support and expand its proprietary hard disk sampling system, and with Commodore holding back any enhancements to the Amiga's sound chips, they have the professional sound market pretty well sewn up.

17 VIRTUAL REALITY LABS
LOCATION: SAN LOUIS OBISPO, CALIFORNIA

HOT PRODUCTS: *DISTANT SUNS, VISTAPRO, TERRAMORPH*

The earlier astronomical 'observatory on a desktop' *Distant Suns* was pretty unique, but the fractal landscape generator *VistaPro* really turned a few heads. Its latest version, 3.0, provides advanced texturing, true 3D trees and the capability of saving left/right views of landscapes for subsequent viewing with 3D glasses. With *TerraMorph*, however, Virtual Reality looks like pushing limits even further with 3D morphing animations in DCTV format.

At the recent Mac World Expo, NewTek wowed the show with the Toaster hooked up to an A2000 and a Mac. They sneakily covered up the Amiga logo with a Toaster badge though.

games, Ocean's *Robocop 3* and Psygnosis' *Shadow of the Beast 3*. The other pieces of software will be Domark's *MicroText* word processor and the *Graphics Workshop* paint package. The A600HD pack, however, will have the same two serious programs, but it will only include one game, Ocean's *PushOver* plus *3D Construction Kit 2* from Domark masquerading under the title *Virtual Reality Studio 2*. It also includes a 40Mb hard drive rather than a 20Mb drive in the UK.

What both Commodore US and its overseas arms agree on, though, is the company's intention to capitalise on CD-ROM technology as a key part of its strategy. Indeed, when asked at the Pasedena press conference about the possibility of a portable Amiga, David Archambault, Commodore US director of business marketing, replied that not only would this now be a distinct possibility given the ever-decreasing price of colour LCD screen technology, but such a machine could feature CD-ROM as integral. While in American parlance the A570 CD drive and CDTV are seen as 'multimedia delivery platforms', it's only in the States where productivity software, as opposed to games conversions and PD collections, is beginning to come out on CD.

> "Commodore's visibility should increase significantly during the next year as new programs, products, strategies and applications mature..."

But competition in the American computing market isn't the sole reason why the Amiga is so strongly associated with prominence in video graphics performance. The chip set at the heart of the machine was, of course, designed from the outset with video graphics in mind and, judging by a recent US survey of professional video users, it would appear to have succeeded – over 50 per cent of the video people who replied had an Amiga involved in post-production.

So when an enterprising bunch of hackers set up a company called NewTek and successfully launched the Video Toaster into US graphics markets you might think worldwide domination by the Amiga as the *de facto* video computer would follow. But no. Although a single Toaster board installed in an Amiga instantly gives your machine the post-production effects capability of a $60,000 video editing suite, it will only do so as long as you're working with the US NTSC video standard. A UK PAL version is yet to appear and seems increasingly unlikely to. Bought as either a stand-alone system for $4,000 or a $2,600 add-on that fits straight into a A2000, The Toaster has four custom video chips, four video inputs and two video outputs. *Lightwave 3D*, the 3D modelling software bundled with the card, is also supplemented by *ToasterCG*, a character generator, *ToasterPaint*, a 24-bit paint package and *ChromaFX*, a colour processing and keying package.

THE STATESIDE MAGAZINE SCENE – AND BUYING FROM THE USA

So what about the user's side of the scene in the states? The magazines? You'd think they'd be thick, glossy works of art like *Amiga Format*, bursting with high-resolution shots of the latest image packages. But you'd be wrong. For the most part they're thin, poorly laid out and over-priced.

The two main American Amiga magazines are *Amazing Amiga Computing* and *Amiga World*. Both are available over here for £2.50 and £2.80 respectively – if you can find them – and both largely cater for semi-professional Amiga users with the occasional diversion into games round-ups.

Neither of them feature disks, a phenomenon which hasn't appeared to reach the States yet, and both come in at around 100 pages. While, as you might expect, the editorial tends to weigh heavily in favour of US products, they provide a useful source of information on new hardware and applications which may, if taken up by UK distributors, find distribution over here.

Less well known, but still well worth a look, are *Amiga News*, a 95-cents monthly newspaper (☎ 0101-603 924 9455), *The Amiga-Video Journal*, a $3.95 specialist bi-monthly magazine available from Avid Publishing (☎ 0101-408-252-0508) and *Video Toaster User*, a $4 bi-monthly, also available from Avid, which may be of interest in the unlikely event that you have a Toaster.

Looking through some of the US prices in these magazines you might be tempted to order direct from the States rather than wait for local distribution, especially because by the time the product is available here, the dollar exchange rate is more often than not a straight 1$=1£. But there's a few points to bear in mind when ordering from the US – or anywhere overseas for that matter.

First, unless you want to get involved in money orders and the like, you'll need a credit card such as Visa, American Express or Master Card (which includes Access cards) to buy the gear.

Secondly, once the item has been dispatched by overseas freight handlers like Federal Express or TNT Express couriers, you'll have to add another three elements to the price that you've already paid. When the goods arrive at UK customs, both import duty of 9 per cent and VAT of 17.5 per cent is slapped on to the value of the items as stated in accompanying documentation, then, finally, the couriers will usually add approximately £10 as a 'deferment processing fee', regardless of whether postage and packing costs were quoted in the original sale price.

So as you can see, a product worth £100 in dollars can rapidly cost you over £135 by the time you receive it. The other two main points to remember are that US power supplies run off 110 volt systems and any device featuring composite video inputs/outputs will usually be configured for NTSC signals rather than our own PAL.

Of course, there are other points to think about too. Like what happens if anything's faulty, what are your warranty rights and the extra costs of phone calls involved in sorting out any problems, but nevertheless, despite all of the above, buying from the US can be a cost-effective solution.

The heart of the suite is the Switcher interface which handles all the built-in digital effects. Video signals can easily be combined, flipped, warped, dissolved, faded, chromakeyed – too many effects to name, really, as there are hundreds of combinations. In short, what you have at your fingertips is a means of taking video signals, manipulating them, adding text and graphics and outputting the results back to tape. And all at US broadcast quality.

> "This is the most exciting time for Amiga computing" Amanda Griffiths, communications specialist, Commodore US

Such are the revolutionary capabilities of the Toaster that it is now migrating to the Macintosh platform. At Boston's MacWorld Expo last year, NewTek wowed showgoers with a Mac, hooked up to an A2000, processing live video events in real time. Great news for the Amiga's profile, you might think, but ironically, the A2000's badge was covered over by the Video Toaster logo and no mention of the word 'Amiga' appeared in the accompanying documentation. Neither does any reference to the Amiga appear in the current Video Toaster publicity. The Toaster board is more and more being pushed as a stand-alone graphics workstation using the Amiga as a host device.

It may come as no surprise either that at a recent Los Angeles Area Video Toaster Users Group meeting running alongside the Pasadena show, a two-hour exhibition of current Toaster capabilities ended without a single mention of the Amiga as playing any part in the proceedings.

Given the emergence and tremendous growth of *Video Toaster User* magazine, it would seem this extraordinary hardware now has an independent life and identity of its own. Perhaps it's too much of an exaggeration to say that NewTek has single-handedly pioneered the low-cost desktop video market, but as far as the Amiga is concerned the Toaster has acted as a focal point for a growing number of quite stunning graphics manipulation packages.

The broadcast video market is only part of the Amiga's story in America. The other big area is 3D modelling and morphing, and this is why a machine with the power and graphics handling of the A4000 is now needed. Rendering and ray tracing are time-consuming and processor-intensive pastimes and anything to cut production times is a benefit. Hence the proliferation of accelerator boards, high-capacity SCSI drives and compression utilities, all of which have been arriving in droves of late.

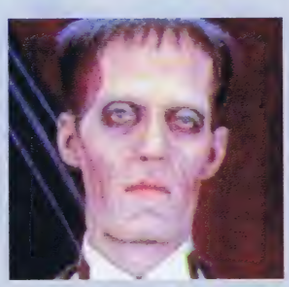
But the hardware is the tip of the iceberg. Never has it been easier to produce ray-traced animations and graphical extravaganzas. There's 24-bit digitisers, 24-bit paint packages, 24-bit image-manipulation applications and broadcast-standard video output devices to transfer the results for posterity.

Take a look at the map on the previous page and you will see what all the main US developers are working on. And if you count the number of graphics packages and peripherals about to hit the market, you'll see the choice is bewildering.

COMPANY CONTACTS

ASDG
925 Stewart Street, Madison W1 53713
☎ 0101-608 273 6585
BLACK BELT SYSTEMS
398 Johnson Road, RR-1 4272, Glasgow MT 59230 ☎ 0101-406 367 5513
CENTAUR SOFTWARE
PO Box 4400, Redondo, California 90278
☎ 0101-310 542 2226
CSA
7574 Trade Street, San Diego, California 92121 ☎ 0101-619566 3912
DIGITAL CREATIONS
2865 Sunrise Boulevard, Suite 103 Rancho Cordova, California 95742
☎ 0101-916 344 4825
GVP
600 Clark Avenue, King of Prussia, Pennsylvania, PA 19406
☎ 0101-215 337 8770
GOLD DISK
Unit 5, 5155 Spectrum Way, Mississagua, Ontario, Canada L4W 5A1
☎ 0101-416 602 4000
ICD
1220 Rock Street, Rockford, Illinois 61101
☎ 0101-815 968 2228
NEW HORIZONS
206 Wild Basin Road, Suite 109, Austin, Texas 78716 ☎ 0101-512 328 6650
NEWTEK
215 SE, 8th St, Topeka, Kansas 66603
☎ 0101-913 354 1146
INOVATRONICS
8499 Greenville Avenue, Ste 209B, Dallas TX 75231 ☎ 0101-619 729 5127
MICRO SYSTEMS SOFTWARE
12798 Forest Hill Boulevard, West Palm Beach, Florida 33414 ☎ 0101 407 790 0770
OCTREE
311 W. 43rd St, Suite 904 New York NY 10036 ☎ 0101-212 369 1733
OXXI-AEGIS
PO Box 90309, Long Beach, California 90806 ☎ 0101 310 427 1227
SCALA
12110 Sunset Hills Road STE 100 Reston Virginia 22090 ☎ 0101-703 709 8043
SOFT-LOGIK
PO BOX 515589, St Louis Missouri, MO 63123 ☎ 0101-314 894 8608
SUNRIZE
2959 S Winchester Boulevard, Campbell, California 95008 ☎ 0101-408 374 4962
SOFTWOOD INC
PO Box 50178, Phoenix, Arizona 85076
☎ 0101-602 431 9151
VIRTUAL REALITY LABS
2341 Ganador Court, San Luis Obispo California 93401 ☎ 0101-805 545 8515

ASTOUNDING US AMIGA FACTS


This man was found lurking around the A4000 launch in California.

1 Believe it or not, Lurch from The Addams Family was seen wandering around the Pasadena Show on the day of the launch of the A4000. Apparently he's a big Amiga fan and heavily into 3D graphics and animation.

2 Americans being Americans, there's no opportunity missed for turning a dime into a dollar. How about 25 HAM images for $70 that 'your bride has been waiting for'? *Our Wedding*, as the disk is affectionately named, features clip art overlays which can be added to your wedding video.
☎ 0101-212-978-8508 for more.

3 How about a series of eight-disk sets, which comprise five to six megabytes of digitised Korean, Chinese and Japanese speech organised as talking-picture dictionaries? *Audio Gallery* provides just such a language service – it also has French, German, Russian and Spanish versions to boot. A boon to any budding linguist.
☎ 0101-703-820-1954 for more.

4 Because of cheaper phone call prices, the US has always managed to have a far stronger comms following than the United Kingdom. Portal, Internet, Compuserve and The Source are just some of the US bulletin boards that offer contacts with thousands of US Amiga users.

But what about a board that acts exclusively as an electronic mail-order service for Amiga products? The Computer Shopping Network, motto: 'Never pay retail or mail-order prices again' – provides just that.
Log on 0101-615 573 8888.

5 In its bid to make serious headway into a market dominated by the likes of IBM and Apple, Commodore US is now running a series of aggressive advertisements in all major US magazines and newspapers. The best headline? 'Nothing will sell you on Commodore multimedia like a few minutes with Apple or IBM'.

6 The biggest craze in the American Amiga community at the moment is morphing. With Black Belt's *ImageMaster*, GVP's *CineMorph* and ASDG's *MorphPlus* (see page 45) all selling by the bucket load, high-end picture transitions like those seen in *The Abyss* and *Terminator 2*, are now surfacing on PD disks. Morphs of a... erm... far more exotic and less salubrious kind, are also starting to make an appearance.

7 American Amiga users have access to over 3,400 products from 676 manufacturers and software companies and can choose to join as many as 389 local user groups. Yet Commodore US publicly states that it's sold seven times more machines in Europe than the States.

8 Such is the prominence of the Amiga in professional graphics that Warner Brothers TV is to run a new live-action sci-fi series, *Babylon 5*, which features ray-traced space combat sequences generated entirely by Video Toasters running NewTek's *LightWave 3D* modelling software. No word yet as to whether UK TV companies have bought the rights though.

9 The Video Toaster now has 18 user groups across the US, with the greatest concentration, surprise surprise, in the west. The Toaster demo tape, *Revolution*, has currently shipped 125,000 copies and up to 60,000 toasters have been sold to date.

10 NewTek started business in a rented office in Topeka, Kansas, with a sign in the window stating 'Nuclear Waste Disposal Facility'. Such is the attention to detail of the average Topekan that not one complaint was filed with the local authorities, even after a television crew turned up to interview local passers by.

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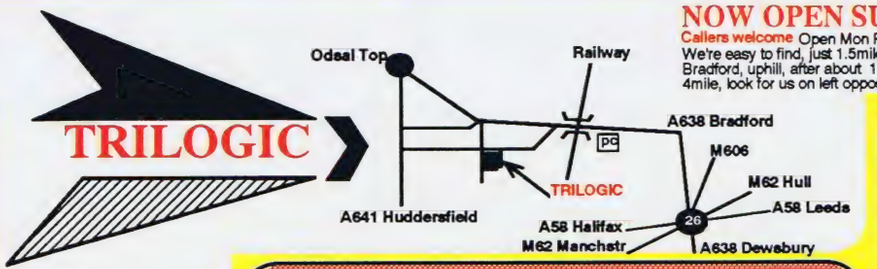

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VIDEOSCAPE 3D	£59.99
WORD PERFECT 4.1	£159.99
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AMIGA 500 & 500 Plus	£4.99
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European unity is here, in one sense: all Europe loves the Amiga. **Stuart Dinsey** surveys the European Amiga scene...

Uncommon market

The Amiga has friends in many places – all over Europe, really, from Lisbon to Helsinki.

NO ONE ARGUES any more: the Amiga is the dominant home computer across the whole of Europe and, in truth, it's been that way for quite some time.

The machine that first arrived in spring 1986 is now better known than the Commodore brand itself across much of the continent. Sure, things are going to get tougher during 1993, but at least 3.5 million of the things have been sold across Europe since launch – that's over 75 per cent of the world total – with 2.5 million going into UK and German homes alone. Not bad, considering that the first Amiga, the 1000, cost £1,475 for a single-drive machine and was pitched at graphics/animation, general business, education and music.

Yep, here was one of the biggest home computer companies in the world, with a dominant position in the games market, getting all snotty and trying to be a 'real' computer company. Never mind that the world of serious computing was already chock-full of different proprietary systems struggling to beat the rising IBM PC standard – Commodore wanted to sell to grey suits.

One year on, Commodore had a re-think. Sales had been poor everywhere except in Germany; in the UK just 13,000 units had shifted; and, most dangerously, software publishers had been wooed on to Atari's new flagship system – the ST. So the A500 arrived, getting its Euro-unveiling in Germany, which would remain the Amiga's strongest market for the next five years. Germans, always keen on high-end machines, loved this new affordable system that could do very professional things. The UK? Well, we loved the games we could play on the thing.

A new UK boss called Steve Franklin arrived for Commodore around the same time as the A500, and set about convincing games publishers to support the thing. He called in favours, commissioned software investment, bashed a few heads. These days, he's given up the MD's seat, but he's a got a new job with CDTV – calling in favours, commissioning software investment, bashing a few heads.

After some ground-breaking games from the likes of Psygnosis and Electronic Arts, the machine soon emerged as *the* games machine – everything big arrived on this system first, and looked and played best on it too.

Things are a little different around Europe these days, with the arrival of Sega and Nintendo's machines and tough software licensing rules. There's also high-spec games-playing PCs and the greatly improved technical abilities of CD systems. Rife software piracy – virtually wiping out games sales in some countries – doesn't help either. But the Amiga ain't giving in – the Amiga 600 is testament to that. It boasts improved features like better reliability, improved ergonomics, and, of course, a lower price.

The Amiga has always been pitched as the best machine for games, the one to aspire to. This still works to a degree, but Commodore knows it has competition and to have stuck with a too-high price would have been suicide against all the cash that Nintendo and Sega are lavishing on TV ads.

The future of the Amiga is, quite simply, as a home machine with good games plus a heap of other capabilities. In the UK, Commodore is steering clear of an all-in fight with consoles, aiming at the older user who wants to get more out of the machine. That means no more sexy ads with a games wiz spinning in his chair to Zoe's *Sunshine on a Rainy Day*.

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AMIGA 500/600 – UK SALES 1987–1992

PERIOD	AMIGAS SOLD
July 1987–June 1988	40,000
July 1988–June 1989	160,000
July 1989–June 1990	200,000
July 1990–June 1991	250,000
July 1991–June 1992	300,000
July 1992–June 1993 (projected)	300,000
TOTAL SALES (projected) by June '93	1,250,000

Note: The total UK sales figure above is for Amiga 500 and 600 models only. Various higher configuration Amigas have also been sold by Commodore since the brand was first launched in May 1986. Overall Amiga sales are estimated at around 1.2 million units, and should be around 1.4 million by June 1993.

AMIGA DEVELOPERS

FRANCE

1 TITUS
MEUDON-LA-FORET, PARIS

Built quite a reputation for itself since the original *Crazy Cars* a while back – recent successes have been Sonic-alike *Titus the Fox* and, of course, *Crazy Cars III.*

2 INFOGRAMES
VILLE URBANNE, LYON

Has consistently struggled to keep up any momentum in the UK. Hits have included *North & South* and *Tintin on the Moon.* Recent stuff includes *Alone in the Dark* – complete with animated 3D characters – plus *Shadow of the Comet,* the first game from *The Call of Cthulhu* range.

3 LORICIEL
PARIS

Thoughts have turned very much to its console products and CD-ROM of late, but the Amiga hasn't been ditched just yet. Most successful titles to date are *Panza Kick Boxing* and *Tennis Cup.*

4 DELPHINE
PARIS

Titles like *Another World* and *Cruise for a Corpse* have set Delphine apart from many of its rivals and earned it respect around the world – not to mention the rest of Europe. But during 1992 it lost both its general manager and the design team responsible for *Another World* to Virgin.

5 COKTEL VISION
PARIS

Publisher of typically French – that is to say, lavish but odd – titles, Coktel's current batch of releases includes *Inca, Gobliiins 2* and *Ween – The Prophecy.*

6 UBISOFT
MONTREUIL, PARIS

One of the big names and a distinctly cosmopolitan lot, UBI now has offices in London, San Francisco, Mulheim and Tokyo. Its releases for the second half of '92 included *Bat 2* and *Spellcraft – Aspects of Valor.*

GERMANY

7 FACTOR 5
COLOGNE

A relatively little known developer, Factor 5 made a name for itself by converting Hudsonsoft's PC Engine flagship, *Bonk's Adventure,* on to the Amiga.

8 ATTIC
STUTTGART

Has come downstairs into the front room and scored great success in Germany with its computer game version of the successful board game *Das Schwarze Auge (The Dark World).* This has since been signed up for the UK by US Gold.

9 STARBYTE
BOCHUM

Corporate-type goings-on within the company have possibly held back the firm in recent months, but latest releases include *Rebel Racer, Traps 'n' Treasures, Warrior of Darkness* and *Hannibal.* None of these has managed to match the success of *Rolling Ronny* – which was released in the UK via Virgin during 1991.

10 SOFTWARE2000
PLON

Producer of one of Germany's biggest hits of 1992 – *Bundesliga Manager Professional* – a football management game which sold in quite extraordinary quantities and was renamed *The Manager* by US Gold when it was released in the UK.

11 RAINBOW ARTS
DUSSELDORF

In recent years things seem to have gone very quiet, but Rainbow Arts made a name for itself with the two *Turricans* and *X-Out* a couple of years back.

ITALY

12 SIMULMONDO
BOLOGNA

Italy's biggest software publisher, but very little known outside home territory except for a foray into footie. Recent titles like *Dylan Dog – The Murderers* (based on a comic hero), *F1 Manager* and *Mille Miglia* (literally 'A Thousand Miles', based on a 1930s car race) haven't done much outside home territory.

13 GENIAS
BOLOGNA

Released a game called *World Cup '90,* incredibly, during the World Cup, which was only available on mail order. Recently did a C64 conversion of *Chuck Rock* for Core.

HUNGARY

14 ARTGAME
BUDAPEST

Hungary's finest (and loneliest); developed *Abandoned Places,* an RPG released in early '92 which won some good reviews. Unfortunately, it was handled in the UK by Electronic Zoo, which went bust soon after release.

DENMARK

15 SILVER ROCK
COPENHAGEN

Had a Danish number one with a game called *Hugo* a couple of years ago. The fellow features on a TV show being hawked around Europe, and a revamped version of the game could appear in 1993.

SWITZERLAND

16 LINEL
APENZELL

Famous for being Switzerland's only games house. Success for Linel has always been thin on the ground. Most recent release was *Traders* – a cartoon-style *Sim City* clone.

FINLAND

17 TERRAMARQUE
HELSINKI

A new firm specialising in non-violent Amiga games. *Galactic* was launched in mid-1992 after 18 months of development, but Amiga owners were too busy killing things on screen to notice.

COMMODORE SUBSIDIARIES

18 AUSTRIA
Commodore Computer Gesellschaft, Vienna

19 BELGIUM
Commodore Computer N.V., St.Stevens-Woluwe

20 DENMARK
Commodore Data, Glostrup

21 FRANCE
Commodore France, Massy Cedex

22 GERMANY
Commodore Buromaschinen, Frankfurt

23 HOLLAND
Commodore B.V., Amsterdam

24 ITALY
Commodore Italiana, Milan

25 NORWAY
Commodore Norge, Oslo

26 PORTUGAL
Commodore Portuguesa Electronica, Lisbon

27 SPAIN
Commodore S.A., Madrid

28 SWEDEN
Commodore A.B., Spanga

29 SWITZERLAND
Commodore (Schweiz), Aesch

30 UK
Commodore Business Machines, Maidenhead

Continued from page 52

"What we're doing, which we slightly pulled away from last year, is going out of our way to show that there's more to this than just games. We're going to say that if you want to do something else, you can," stated new UK boss Kelly Sumner pre-Christmas.

Strangely, in Germany, the pitch this year turned to leisure for the first time. Until the A600 arrived, all advertising and marketing had been to professionals, even though the majority of units sold went into homes as a computer for the kids (and that means games).

The Amiga in Europe has reached a watershed, and to succeed it must change. It's still strong in the UK and Germany, but in France, Scandinavia and Italy the machine is falling into second-class citizen status – an ageing games computer with a big software base. It's not a flagship games machine (where 16-bit consoles have moved in) or a state-of-the-art system for all types of home use (CD machines have claimed that ground).

But the Amiga could ride into a rosy future on the back of CDTV. Commodore UK cleverly came up with the idea of re-branding the CDTV as Amiga CDTV, following the disastrous attempt to pitch the machine as a whole new ball game. That UK brainwave was utilised across the rest of Europe, as the CDTV slowly began making some progress during 1992. Germany then came up with the idea of a CDTV 'computer pack' – complete with keyboard, disc drive and mouse. A trade-in offer in the summer, and, lo! A new, sleek, black, CD-playing Amiga is starting to pop up in people's homes.

It won't be the A600 that wins an Amiga future in Europe, it will be a CD Amiga – at the right price (below £400), with the right software utilising the technical ability of the CDTV and all that room on CD discs, the Amiga could again re-emerge as the demon games-playing system across all Europe.

Publishers are keen to support Commodore if they can, and this year might just see the types of CD products emerge that can rebuild Amiga as the entertainment system to own. An example is Psygnosis' *Microcosm*. It's a new project that should appear for CDTV – and remember, that's *Amiga* CDTV these days – shortly after the new year. Everyone who has seen it so far has said that it is a stunning quantum leap in games design. And that sort of thing sells machines.

State of the Nations

GERMANY

This has traditionally been the most successful territory for the Amiga in Europe, but the UK has always been shadowing it closely. Indeed, such is the dominance of these two nations that between them they've seen 2.5 million Amigas sold since since launch – with the rest of Europe only managing another million in total.

Commodore has a strong name in Germany, where it is perhaps given a little more credit for its consistent introduction of technical innovations than in the UK. Germans like technology – just take a look at their cars.

> "The Amiga emerged as *the* games machine – everything arrived on it first, and looked and played best on it too. Now there's more to it than games"

Even their footballers play like robots. Thus the Amiga was welcomed from day one as a system that could do wonderful things with graphics, video and audio applications as well as play damn fine shoot-em-ups.

Even models like the Amiga 2000 get a slice of the marketing spend here, but the majority of the 1.3 million machines estimated to have been sold over the years are 500s, and – just like everywhere else – these have largely become used as games machines.

German gaming tastes were different from the UK's until the console firms started successfully courting younger British gamers at the beginning of the '90s – leaving the Amiga with a rather older set of purchasers. Thus, the German market was the first to be dominated by the likes of MicroProse and Lucasfilm (now LucasArts), with simulations and role-playing games far more popular than straight arcade fare.

The most popular games during 1992 were *Airbus* (Thalion), *Monkey Island II* (Lucasfilm) and *Bundesliga Manager Professional* (Software 2000, later published by US Gold as *The Manager* in the UK).

An Amiga 600 retails at Dm700–800, and games bundling is just starting to take off, with an *Airbus* pack appearing for the run-in to the busy Christmas period.

The arrival of games packs is testament to Commodore Germany's awareness that the Amiga is stalling a little under pressure from PCs. Having once relied on its image as the technological leader, Commodore now finds its A600 outclassed by affordable 386s with great graphics and sound. Thus, the A600 has been re-positioned, with emphasis on its lower price and the number of games available.

Piracy is hindering the machine's progress, however, with a hit game achieving only 20,000 sales despite there being all those machines out there. Boris Schneider, German mag veteran, laments: "The Amiga definitely was the dominant home format, and it still is in terms of hardware extensions and professional software, but over the last few months the games market has stagnated. PCs will sooner or later take over."

Perhaps proof of the Amiga's problems in Germany came from exhibitions company AMI Shows, when it decided to scale down October's Amiga '92 event to business-only – chucking the Amiga entertainment side into the pot with a new event running alongside it called Entertainment '92.

UK

With all the talk about 16-bit consoles, PCs and multimedia machines, it's easy to picture the Amiga as being rather squished. The 'rad' teenagers and

THE UK GAMES PACKS – PAST & PRESENT

Air Miles Pack
Available between April 1989 & October 1989
Featured *Nebulus, Star Raid, Who Framed Roger Rabbit*
£500 of Air Miles vouchers

Batman Pack
Available between October 1989 & September 1990
Featured *Batman, Deluxe Paint II, F-18 Interceptor, New Zealand Story*

Flight of Fantasy
Available between April 1990 & September 1990
Featured *F-29, Rainbow Islands, Escape From The Planet of the Robot Monsters, Deluxe Paint II*

Screen Gems
Available between September 1990 & July 1991
Featured *Days of Thunder, Nightbreed, Back To The Future II, Shadow of the Beast II, DPaint II*

Cartoon Classics
Available between July 1991 & September 1992
Featured *The Simpsons, Lemmings, Captain Planet, Deluxe Paint III*

The Wild, The Weird and The Wicked
Available between September 1992 & the present
Features *Grand Prix, Putty, Pushover, Deluxe Paint III*

A popular compilation pack, Cartoon Classics saw sales of the Amiga rocket up to the 300,000 mark.

enlightened twenty-somethings are supposed to be buying Megadrives and Super Nintendos. The older lot? Well, they'll surely want either a sexy config PC because it's compatible with their machine at work, or they'll want to be the talk of the neighbourhood by having a CD machine of some sort.

Why then was Commodore sailing into Christmas predicting its biggest-ever calendar year of sales for the Amiga (340,000 of them, in fact)? Well, for one thing, the machine is now improved, and cheaper. Secondly, it has a very strong brand name and can still offer great games plus the complete spectrum of 'serious' uses, from basic word processing to video digitizing.

The A570 drive finally arrived at the tail end of the summer to offer owners the chance to play CDTV software, and it's CD that should give the Amiga a ticket to ride until 1995 at least.

But Commodore won't be expecting to repeat that 340,000 total in 1993, unless it's got something very, very special tucked away and ready for launch.

ITALY

Thanks to Italians' idiosyncratic gaming behaviour, the Amiga is fighting off the PC's challenge to be the most popular computer games format – with sophisticated RPGs and simulations yet to really take off. Thus, arcade titles can still do well here. Indeed, the Christmas number one in 1991 starred those naff old Turtles in *TMHT – The Coin-Op*.

Unfortunately, although total Amiga sales of 600,000 is very impressive, this is not matched by games sales, where piracy has been a problem for years.

For the record, Amiga CDTV has actually done rather better here than expected to – with around 10,000 sales up to September 1992, thanks to an unusual link-up with encyclopedia firm Grolier. Rather than selling the usual volumes of general knowledge door-to-door to unsuspecting parents, they've been offering the CD version – with a CDTV thrown in for good measure.

And, of course, because most encyclopedias are usually sold on the never-never, the sales pitch definitely seems to be working rather well.

FRANCE

This has never been a real winning territory for Commodore, although the Amiga was until very recently neck and neck with the PC as the dominant games system.

The Amiga has sold around 250,000 units in all, which is enough to have created a cell of wacko games publishers – from Delphine to Infogrames, Loriciel and Coktel Vision – who think nothing of breaking games design barriers only to come up with totally unfathomable products *(Purple Saturn Day, Future Wars* and so on), as well as the occasional stormer *(Another World, Cruise for a Corpse,* and the ground-breaking *Sim City)*.

Historical reasons for the Amiga's poor performance here compared to the UK and Germany include the serious competition from machines such as the ST, France's own Thomson, and the Amstrad CPC (yes, it sold somewhere), plus Commodore's management bias towards selling its PCs into business rather than Amigas into homes. In the year to July 1992, it sold around 60,000 PCs – making it the fourth-largest PC vendor in France – while only shifting around 40,000 Amigas.

These days, the bottom end of the games market has been gobbled up by consoles, while PCs have surged ahead in popularity among 'serious' games players. 33MHz 386s with SuperVGA and 4Mb were going for just 8,000 francs (£800) in the spring of '92, and – with price-cutting rife – this was expected to drop to 6,000 to 7,000 Francs by the new year.

EASTERN PROMISE

In western Europe, the Amiga's flame is most definitely flickering from the wind of change that is blowing through home computing. With luck, though, it will burn as brightly as ever once a new upgraded Amiga emerges during 1993, re-establishing it as the state-of-the-art home system.

In Eastern Europe, however, there is potential for huge sales of existing Amiga hardware and software. Countries like Poland, Czechoslovakia and Hungary are quickly becoming market economies, with the public keen to splash out on consumer goods – particularly electronic ones.

The C64 has historically done well in the east, thanks to its low price, but the arrival of the A600 at a low price – and the fact that it's ultimately a better machine – must mean that the Amiga is in line for some success.

Sales into the emerging nations are largely handled by Commodore Germany, with any number of imported machines following official orders across the border.

Poland is the most advanced country, with around 60,000 Amigas believed to be installed (all of which would appear on the books as machines sold to Germans). The passion for games is growing at some pace, and a dedicated TV show kicked off in the autumn – its expected audience of up to 10 million viewers putting Channel 4's *Gamesmaster* to shame.

An official distribution network was set up in Poland earlier in the year, with 15,000 Amiga sales expected during the Christmas season. Distributors were also recently appointed in Czechoslovakia and Hungary.

As gaming takes hold, development teams will no doubt start springing up – as they did in the UK all those years ago. Products will be primitive at first, but 'formula' writing might be beaten by good old-fashioned innovation and enthusiasm.

The most noteworthy Eastern European Amiga game to date is *Abandoned Places,* a role-playing game by Artgame of Budapest. Unfortunately it fell into the hands of Electronic Zoo, which went bust only a matter of weeks after releasing it in the UK. But with better luck, the east could rise again.

10 TOTALLY AMAZING EURO-AMIGA FACTS

The A600 – made in bonny Scotland.

1 Yes, you can buy British these days when it comes to Amigas. Once all Amiga 500s were imported from the Far East but, in September, production of Amiga 600s began in Irvine, Scotland. The first A600 ever made in the UK – serial number 00001 – takes pride of place in Commodore UK MD Kelly Sumner's office.

2 Commodore's 1992 calendar year sales forecast for the Amiga was 340,000 units – that figure being revised up by 40,000 in September after a good public reaction to the £100 cut in the price of the A600.

3 A software house in Finland has styled itself as a specialist in non-violent Amiga games. The firm, called Terramarque, is convinced that a stand has to be taken. "Games that display acts of meaningless slaughter are simply irresponsible and should not exist," says the firm. Terramarque's debut release was an arcade game called *Galactic,* which came out (and did nothing) during the summer.

4 Commodore has no less than 13 European subsidiaries – with headquarters in Austria, Belgium, Denmark, France, Germany, Holland, Italy, Norway, Portugal, Spain, Sweden, Switzerland and the UK.

5 Commodore's UK turnover to July 1992 topped £85 million.

6 Commodore's own figures give the Amiga 500 a failure under warranty rate of 8.25 per cent. The Amiga 600's figure is apparently 0.78 per cent – meaning 22,000 less broken machines this year.

7 Amiga game music made it into the German album chart during the summer of 1992. A 70-minute collection of remixes from 'classic' game themes composed by Chris Hulsbeck apparently sold over 10,000 copies on CD. Called 'Shades', the album's most impressive cut is apparently a *Turrican* medley – featuring themes from the two *Turrican* games. A second album was due for release in Germany at press-time.

8 The Amiga has never done very well in Spain. Ironic, considering that the word 'amiga' is Spanish for 'girlfriend'.

9 Most of the Amiga 600s sold outside the UK are still imported from the Far East. But some A2000s are still made in a German factory.

10 The UK has far more Amiga magazines than any other European country. The biggest outside the UK is Germany's *PC Joker* – which manages a paltry 60,000 against *Amiga Format's* rival-smashing 161,256 (ABC). Could it be the odd title?

EUROPEAN AMIGA OWNERS

Germany	1,300,000
UK	1,200,000
Italy	600,000
France	250,000
Scandinavia	80,000
Benelux	40,000
Rest of Europe	30,000
European total	3,500,000 owners
Worldwide total	4,500,000 owners

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Useful for removing ugly borders when using NTSC software. (Works only with newer Agnus chips).

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Now you can slow down the action to your own pace. Easily adjustable from full speed to 20% speed. Ideal to help you through the tricky parts!

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● **RESTART THE PROGRAM**
Simply press any key and the program will continue where you left off.

● **FULL STATUS REPORTING**
At the press of a key now you can view the Machine Status, including Fast Ram, Chip Ram, RamDisk, Drive Status, etc.

● **POWERFUL PICTURE EDITOR**
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NEW **JOYSTICK HANDLER -**
allows the user to select Joystick instead of Keypresses - very useful for many keyboard programs.

● **MUSIC SOUND TRACKER**
With Sound Tracker you can find the complete music in programs , demos,etc. and save them to disk. Saves in format suitable for most track player programs. Works with loads of programs!!

● **AUTOFIRE MANAGER**
From the Action Replay III preference screen you can now set up autofire from 0 to 100%. Just imagine continuous fire power? Joystick 1 and 2 are set separately for that extra advantage!

NEW **IMPROVED RAM EXPANSION SUPPORT.**
Now many more external Ram Expansions will work with all Action Replay III commands.

● **DOS COMMANDS**
Now you have a selection of DOS commands available at all times - DIR, FORMAT, COPY, DEVICE, etc.

NEW **FILE REQUESTOR -**
if you enter a command without a filename, then a file requestor is displayed.

● **DISK COPY**
Disk Copy at the press of a button - faster than Dos Copy. No need to load Workbench - available at all times.

● **BOOT SELECTOR**
Either DF0 or DF1 can be selected as the boot drive when working with Amiga Dos disks. Very useful to be able to boot from your external drive.

NEW **PLUS IMPROVED DEBUGGER COMMANDS -**
including Mem Watch Points and Trace.

● **DISKCODER**
With the new "Diskcoder" option you can now 'tag' your disks with a unique code that will prevent the disk from being loaded by anyone else. 'Tagged" disks will only reload when you enter the code. Very useful for security.

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REMEMBER AT ALL TIMES YOU ARE INTERROGATING THE PROGRAM IN IT'S "FROZEN" STATE WITH ALL MEMORY AND REGISTERS INTACT - INVALUABLE FOR DE-BUGGING OR JUST THE INQUISITIVE!

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All around the world

Stuart Dinsey ranges across the planet and accounts for the national boundary-busting popularity of the Amiga...

AS WITH CARS and most electronics equipment, the Japanese have carved up the games market in the US. Nintendo and then Sega laid claim to the territory and prevented the Amiga, when it was introduced in 1987, from inheriting the once dominant position of the C64, leaving the Amiga in a very weak position in its US home territory.

As an alternative, Commodore US got hung up on being a real competitor for the likes of Apple and IBM, marketing the Amiga as a 'workstation' from the off – with its multi-tasking abilities and relatively low cost being pushed heavily. This has helped the Amiga become a well-supported professional machine, with US publishers offering top-notch graphics, video and business software.

That's good news for Amiga owners who want to do more than just play games, but it hasn't helped sales much in the Amiga's PC-dominated homeland. In 1990, US sales made up only 18 per cent of worldwide turnover.

Commodore has persevered, however, and produced top-spec launches such as the Amiga 2500/30 (running at 25MHz and boasting a Motorola 68030 microprocessor) and the Amiga 3000, with full 32-bit architecture. These have briefly raised hopes, thanks to warm press receptions, but sales have continued to disappoint. Europe, ultimately, is the real success story for the Amiga – and if you've ever wondered why Commodore bothers to make boring old PCs, the Amiga's US troubles are the answer.

With Europe accounting for the vast majority of the Amiga's worldwide success, and the US forever coming up with new ideas or upgraded models to try to squeeze out a few more thousand owners, there aren't going to be huge numbers of Amiga owners elsewhere. That said, there are a few countries of note: Australasia, Turkey and South Africa.

Thanks to their ability to copy the UK's marketing activity in English, with some ease, Australia and New Zealand have always been fairly strong. Along with the rest of the Far East, sales make up around seven per cent of Commodore's worldwide turnover. Total Amiga sales here are hard to ascertain, but are probably in excess of 100,000 machines in all.

Like many lower-level export markets, Turkey has a massive population, but only around 20 per cent of the market would either have a high enough wage or be suitably computer literate to be considered as potential Amiga owners.

There is, however, a huge grey market in Turkey, thanks largely to the high numbers of people who work in Germany. Official imports would be faced with a high import duty, but machines often come into the country with no tax being paid by the long-distance commuters returning with high-tec goodies for their loved ones (and themselves, of course). As a result, some 75,000 Amigas are believed to be dotted about here, although there aren't any official figures – thanks to most sales actually being on Commodore Germany's books.

Around six out of every 10 Amigas in Turkey are believed to be grey imports, so official sales figures don't reflect the market's potential. Commodore simply can't compete with the importers at present because its prices are too high, but the firm is looking at ways to actually co-operate with some of the larger outfits. Schools in Turkey are apparently keen on the Amiga too, and sales are even beginning to open up in some of the new republic areas such as Uzbekistan.

In neighbouring Greece official sales should be a tad easier to come by, thanks to the country's EC membership and lack of trade barriers, but this has traditionally been a struggling Amiga market. Recently, though, a new distributor has been signed up and sales hit the dizzy heights of 1,000 units during a recent quarter. Greece and Cyprus together are estimated to have around 30,000 Amiga owners. Ownership here, and in Turkey, is centralised very much in the big cities such as Athens, Larnaca, Istanbul and Ankara.

> "In Greece, the Amiga is marketed as an 'aspirational' purchase – the sexiest home machine you can buy – but bundled software isn't an option"

Commodore's biggest threat in Greece – as it is everywhere else – is from the cheapie PC clones coming in from Taiwan with alarming frequency. The Amiga is thus marketed as an 'aspirational' purchase – the sexiest home machine you can buy – but bundled software isn't as much of an option as it is in the UK because piracy is so rife that software has hardly any value. If bundled software caused the price of an Amiga pack to go up at all, consumers just wouldn't want to know. Instead, Commodore tries to give dealers incentives, offering them nice profit margins, or adding peripherals and suchlike.

As far as the rest of the mediterranean goes, well, there's a pocket of users in Malta – like Cyprus, a country with a decent contingent of English speakers, thus making exports somewhat easier.

The African market for the Amiga is, as you might expect, small and neatly split into two – South Africa and 'the rest of Africa'.

South Africa is actually causing a stir of excitement among some Commodore notables, who mutter earnest things like "the time to get in is now". With the dismantling of apartheid continuing, multi-national companies have woken up to the fact that there are some very advanced parts of the South African economy, with some very rich potential customers.

In all, the nation consists of around seven million whites and 27 million blacks, and is – as one Commodore spokesman puts it – "a third-world country with a first-world infrastructure". That means it's got the type of inner cities, marketing and retail techniques that have more in common with the US and Europe than the rest of Africa.

Amiga sales in South Africa are growing slowly at present, but are under pressure from

PUTING CONCERNS A WORLDWIDE VI

PCs. With large chainstores such as Pick 'n' Pay, however, Commodore is confident that it can replicate some of its successful European sales and marketing projects – and ultimately believes that the territory could be worth around £10 million a year. Big computer manufacturers like IBM, Apple and Bull have all set up dedicated offices, and a similar move from Commodore may come during 1993.

The rest of Africa, meanwhile, has hardly any Amiga owners to speak of, and very little potential at present. Few firms – Commodore included – are willing to invest in an area where governments are either full of red tape or don't last five minutes. But for the record, Commodore does have a deal with a firm in Malawi – which imports all kinds of European goods, including grass seed for golf courses.

Commodore also ships a few Amigas off the African coast to Mauritius, where the C64 was once apparently king. Annual sales here, about 200, are around the same as a single decent-sized Amiga dealer in the UK.

Last, there's India and Pakistan to consider – jam-packed with people, but again with low incomes and only a small percentage of rich people to sell to. Import duties running as high as 200 per cent currently thwart all attempts to get sales going, so Commodore is considering a system known as 'semi knock-down', which means it would ship the parts into the country and then have them assembled there – thus paying a far lower import duty.

Ultimately, the hope for Commodore must be that some of the poorer countries will soon start to embark on computer literacy projects for their schools, similar to the type that took a million Acorn BBCs into English classrooms during the early eighties. The cheap, technically excellent, easy-to-use Amiga must be in with a good chance.

Commodore is acutely aware of the opportunities – after all, even the-10-year old C64 is still being manufactured. But with PCs getting cheaper by the minute, the Amiga winning any new markets certainly ain't gonna be easy.

COMMODORE COMMANDS

LOCATIONS

PRODUCTION PLANTS

1 Irvine, Scotland
2 Braunschweig, Germany
3 Kwai Chung, New Territories, Hong Kong
4 Philippines

OFFICES

5 West Chester, Pennsylvania, USA
6 Auckland, New Zealand
7 Kwai Chung, New Territories, Hong Kong
8 Nassau, Bahamas
9 Tokyo, Japan
10 Lane Cove, New South Wales, Australia
11 Agincourt, Ontario, Canada

US BITS

MIAMI

12 The Miami Dolphins' stadium uses an Amiga to drive the 40-foot animated scoreboard.

13 **ATLANTA**
An Amiga helped the city succeed in its bid to host the 1996 Summer Olympics by controlling an interactive multimedia tour of the proposed Olympic Village.

AMAZING AMIGA FACTS FROM AROUND THE WORLD

1 The slang for 3.5 inch disks in South Africa is 'stiffies'.

2 Commodore's worldwide turnover in the year to July 1992 was $960 million. This a serious amount of cash, but it's actually a dip on last year, when the firm topped the $1 billion mark for the first time in years.

3 Commodore's worldwide research HQ is in West Chester, Pennsylvania. It has 19 subsidiaries outside the US – 13 in Europe, plus offices in Australia, the Bahamas, Canada, Hong Kong, Japan and New Zealand.

4 There are four Amiga production plants in the world – in Hong Kong, the Philippines, Germany and (a new one just opened) at Irvine in Scotland.

5 A D-RAM chip shortage hit production of computers all over the world in 1988. But it didn't hit the Amiga. Indeed, the firm took adverts in the quality press claiming that it had 40 per cent of all D-RAM chips in the world – and poked fun at Amstrad's Alan Sugar for not having any.

6 The Amiga accounted for over 50 per cent of Commodore's total worldwide turnover for the first time in 1990.

7 There is an Amiga Users Club in Japan – with around 200 devoted members.

8 Amiga sales in Saudi Arabia and Iran are handled from Commodore's subsidiary in Amsterdam, Holland – because the boss there said he could sell more than anyone else.

9 Regular Amiga shipments are sent out to Mauritius – where sales currently run at around 200 machines a year.

10 The Amiga is sold in over 70 different countries around the world. Worldwide sales since the machine's launch in 1987 have topped 4.5 million units.

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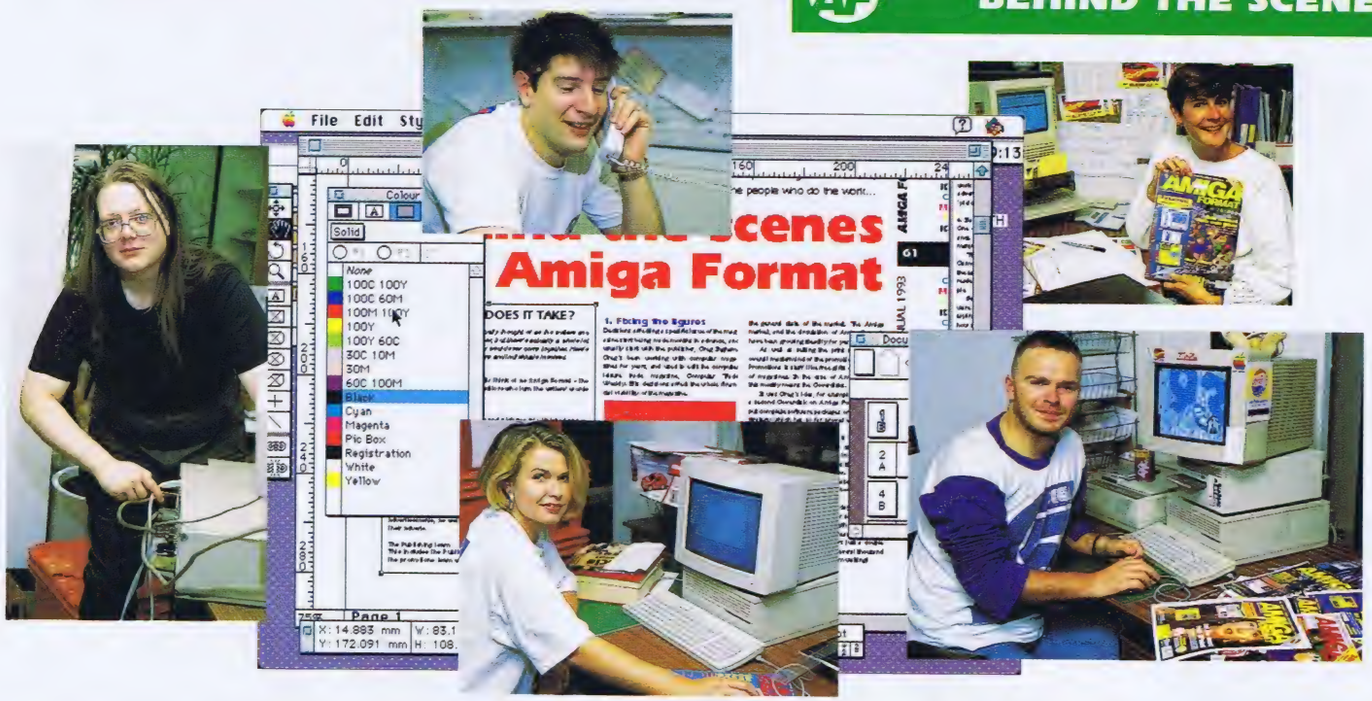


We've had many requests from people who want to know how **Amiga Format** is put together. So here editor **Damien Noonan** reveals the techniques used to create the best-selling computer magazine in Britain, and offers a glimpse of our own tastes in games, music, films and more...

Behind the scenes at Amiga Format

HOW MANY DOES IT TAKE?

The staff of the magazine is usually thought of as the writers and the designers who put it together, but it's actually the combined efforts of many teams of people that makes it happen...

The editorial team
These are the chaps you normally think of as *Amiga Format* – the writers, the editor and the sub-editors who create the words.

The design team
The people who combine words and pictures into finished pages, the layout or art chaps are actually part of the editorial team.

The advertising sales team
Most magazines can only be economically viable through the sale of advertising space, and so a large group of people is dedicated to making this happen.

The production crew
Production is the physical realisation of the magazine, preparing the 'film' from which the magazine is printed. This involves 'typesetting' and 'imagesetting' all the editorial pages and many of the advertisements, as well as chasing up for the film of the adverts.

The publishing team
This includes the publisher, who is the editor's boss, as well as the promotions team which organises programs for the Coverdisk.

Subscription/mail order department
Based in Somerset, this department is where subscribers' copies and anything you buy through the mag are packed and mailed out.

1. Fixing the figures

Decisions affecting a specific issue of the magazine start being made months in advance, and usually start with the publisher, Greg Ingham. Greg's been working with computer magazines for years, and used to edit the computer leisure industry's own trade magazine, *Computer Trade Weekly*. His decisions affect the whole financial viability of the magazine.

Greg Ingham, publisher of *Amiga Format*, has to get the ball rolling with decisions on print runs.

Three months or more in advance, Greg is deciding how many copies of an issue will be printed. Factors affecting his decision are the time of year – the Autumn and Winter are the times of greatest growth in circulation – and the general state of the market. The Amiga market, and the circulation of *Amiga Format*, have been growing steadily for years.

As well as setting the print run, Greg is overall mastermind of the promotions strategy. Promotions is stuff like free gifts on the cover of magazines. In the case of *Amiga Format*, this mostly means the Coverdisks.

It was Greg's idea, for example, to include a second Coverdisk on *Amiga Format* and to put complete software packages on that disk, a strategy which has so far proved very popular with readers.

So, well in advance, Greg is juggling the figures and setting how many copies of the magazine will be printed. But in actual fact, the very first factor to be set is that of deadlines. Judith Middleton, the company's production manager, books dates on which *Amiga Format* will be printed an amazing 18 months in advance.

Printers work 24 hours a day on almost every day of the year and their schedules are carefully organised. Even though a print date is set 18 months ahead, this means that if we deliver the 'film' to the printers just a couple of hours late we can be fined several thousand pounds an hour for keeping them waiting!

2. Disk discussions

The Coverdisk is a very important part of *Amiga Format*, and one major concern is to bring you the very best demos of games and commercially-available software. And also, with the *Amiga Format Collection*, there's a lot of work to be done lining up high-quality complete packages, too.

So this is another job that's done well in advance. Neil Jackson, *AF*'s reviews editor, and Damien, the editor, are closely in touch with all the major software companies and are always keeping an eye and an ear out for the next big hit game.

They make recommendations to the promotions team, Michele Harris and Tamara Ward, who then contact the software companies and arrange for demos of the games to be booked in for the Coverdisk. Again, all this requires considerable organisation and must be done several months in advance.

It's a similar process with complete programs for the *Amiga Format Collection*. Damien and Neil recommend the best ones to Duncan Ferguson, *Amiga Format*'s advertising manager, who then approaches the software companies and negotiates with them for the rights to publish the program on our Coverdisk. And no, we're not going to tell you how much it costs us! Although, as you can imagine, it doesn't come cheap...

3. Size matters

We're now a bit further on in time, right at the start of the monthly schedule. *Amiga Format* goes on sale on the second Thursday of every month but it takes about two weeks for the mag to be printed and distributed around the country, so we send it off to the printers on the last Tuesday of the previous month. Which means our monthly schedule starts more or less on the first day of the calendar month.

4. Balancing act

One of the things we have always felt was most important in *Amiga Format* is achieving a balance of contents, so the first thing on the priorities list for the editorial team, once we know how many pages we have to play with, is setting up the contents list of the issue.

There are three parts to the content of the magazine. First up are the regulars, like PD Update, Gamebusters, Workbench and Letters. These are generally easy to deal with, because they stay the same size from issue to issue, though we do often discuss changes according to feedback from readers. Recently we increased the size of the Workbench advice section to six pages, for example.

Secondly, there are the reviews sections. Both games reviews and 'serious' hardware and software reviews are under the aegis of reviews editor Neil Jackson, so at this stage Damien will be saying to Neil: "Right, how many pages do we need for reviews?" and we'll reach a decision on how many pages we need to set aside.

Anything that's left over we put under the general heading of features and these pages are under the control of features editor Tim Smith. That may make it sound as if features are an afterthought, but in actual fact the features are the most important and most carefully constructed part of the magazine and are often planned several months in advance.

Features include buyers' guides and comparisons, where we test all the different makes of, say, disk drives or word processors available and pick out the best. They also include 'subject guides', which are really meant to show you that there's lots of fun to be had in the creative areas of the Amiga, as well as to introduce basic techniques, covering subjects like graphics, animation and video.

The whole team gets involved in suggesting ideas and planning features, particularly the cover feature. There's always one main subject on the cover of the magazine and we have to make sure that it's something the majority of readers will find interesting, so fresh ideas are important.

Tamara (above) and Michele (above right) organise the Coverdisk game demos, while Duncan (right) arranges the *Amiga Format Collection* complete programs.

So, at the beginning of the month, the first decision to be taken is how many pages the issue will have. Ad manager Duncan estimates roughly how many pages of advertising he thinks will be sold and then publisher Greg sets an issue size in consultation with Damien, the editor.

We've often had letters from readers complaining about the number of pages of advertisements in the magazine, but in actual fact the more ads there are, the more pages of editorial we can have. Plus, of course, the fact that ads are a useful resource if you need to buy anything.

Generally Damien will be arguing for more pages of editorial content than he's offered, even though it means extra work for the editorial team. We always seem to have more interesting stuff than we have space to cover it, but we try to squeeze it all in.

The issue size (also called a 'page count') is also of importance to the advertising team because it is a target for them. If they reach that target and also hit a target for 'yield' – the average amount of money earned by each page of advertising – they get a bonus.

the people behind the magazine

DAMIEN NOONAN, EDITOR

Favourite games of 1992
1. Secret of Monkey Island 2
2. Wizkid
3. Populous 2
4. Oh no! More Lemmings
5. PGA Tour Courses

Favourite creative software of 1992
VistaPro 2

Favourite hardware of '92
GVP A530 Turbo

Favourite films of 1992
1. Casablanca
2. Liverpool 1991-2 Season
3. Alien^3

Favourite music of 1992
1. Innes Sibun Blues Explosion
2. The Singing Detective
3. 10,000 Maniacs

Favourite book or other publication of 1992
Faber Book of Football

the people behind the magazine

GARY LORD, PRODUCTION EDITOR

Favourite games of 1992
1. Push-Over
2. Lotus 3
3. Project-X
4. Volfied
5. Pinball Fantasy

Favourite creative software of 1992
Presentation Master

Favourite hardware of '92
Logitech Kidz Mouse

Favourite films of 1992
1. The Player
2. High Heels
3. Little Man Tate

Favourite music of 1992
1. Anything by Crowded House
2. Tired of being alone – Texas
3. Highway 5 – The Blessing

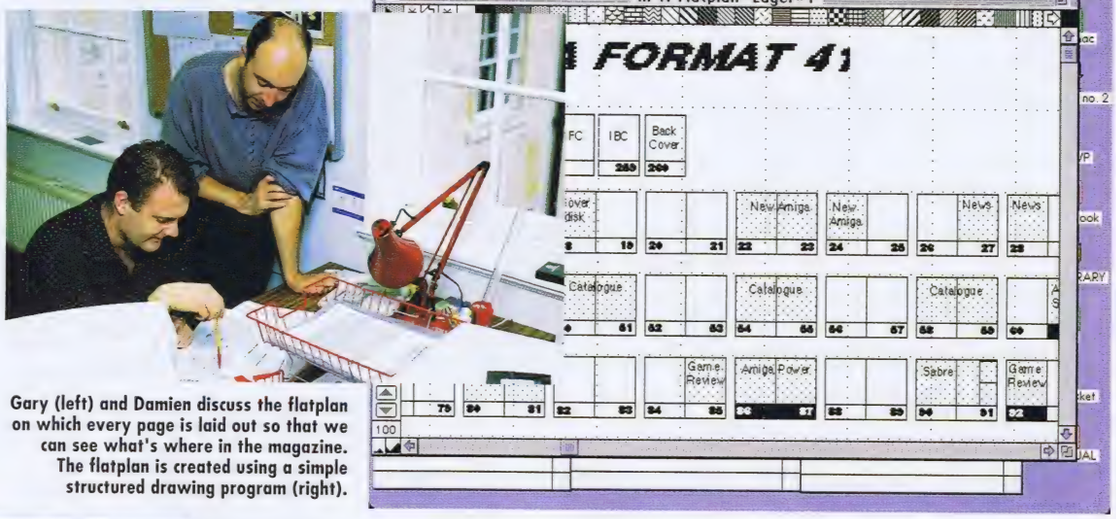
Favourite book or other publication of 1992
Espedair Street – Banks

5. Who writes what?

After the contents list is put together, we know what we want, so now it's time to make it happen. Already, with four weeks to go, deadlines are a pressing consideration, so it's important to get this sorted out pretty rapidly.

Much of the writing is done by the in-house writers, those on the editorial staff: Nutts, Neil, Pat and Tim. Damien also writes a lot, Gary helps out and Marcus is a great game reviewer, but there's still a good deal too much for us to do it all so a proportion of the writing is done by out-of-house freelancers.

As technical editor, Pat McDonald has a very regular workload. He's responsible for the Workbench hints, tips and advice section as well as the PD reviews of games and utilities and putting together the Coverdisk. But he'll also help out on hardware reviews as well as testing 'serious' software – and if there happens to be a good strategy or wargame in the offing, you can bet your bottom dollar that he'll want to review it.



Gary (left) and Damien discuss the flatplan on which every page is laid out so that we can see what's where in the magazine. The flatplan is created using a simple structured drawing program (right).

Andrew Nuttall (Nutts) is in charge of the Gamebusters section and also the PD Demos reviews, on top of which he's a games reviewer so he'll get pretty involved with the Screenplay section. He's also a keen musician, a dab hand with *Deluxe Paint* and flexible enough to get involved with such stuff as mouse round-ups.

Damien writes Letters and news stories and often helps out with features, while both Neil and Tim write reviews and features material, although a major task for the latter pair is organising who writes what and commissioning freelancers.

Commissioning is a surprisingly difficult task. Not only do you have to make sure that the writers get over the information you want them to, but their opinions must also be carefully checked to make sure they tally with the *Amiga Format* world view. Plus, amazingly, freelance writers are very poor at writing in the style of the magazine: providing ratings in all the right categories in a serious software review, for example.

So written commissions giving careful instructions are vital. Then the freelance writers must be chased to make sure that they stick to the deadlines they have been given. And when their copy arrives, it has to be checked to make sure it fulfils the commission.

6. Planning every page

So, we know what we're going to write about this month and we know who's doing the writing. Next step is to decide where in the magazine each article will appear.

We have to create a flatplan. A flatplan is simply a diagram of all the pages in order, showing what will be printed where. This is a job for the production editor, Gary Lord, working with a structured drawing package on the Macintosh called *MacDraw*.

One major restriction comes into play at this point. Magazines like ours are printed in 'sections' of 16, 24 or 32 pages at a time, so we have to break up the issue size into these sections. On top of this there is the cover section which, because the cover is printed on heavier paper and also varnished, has to be a four-page section on its own. So for example, a 276-page issue would have a four-page cover section, seven 32-page sections and one 16-page section.

Amiga Format is what's known as 'perfect bound' – it's stuck together with glue and has a spine, a bit like a book, and the pages in the sections run in the same order as the magazine appears. However, other magazines are stapled together or 'saddle-stitched', and the sections run half in the back and half in the front of the mag, which makes flatplanning more difficult.

Flatplanning is an important art, because where the pages fall in the magazine gives individual articles a certain feel. Major features will be near the front of the magazine. Important games will get two facing pages (a double-page spread, or DPS) to give them more impact. No article will ever start on a left-hand page: some articles can be quite spread out, with lots of ads in between, whereas others will need to be very compact.

Once the flatplan is finished, everyone on the editorial and art teams gets a copy and this is an important psychological step because it gives us all a feel for the issue. Now we can buckle down to work, though Gary has one more important preparatory task…

7. Running on time

Hopefully the contents list and the flatplan will be finished on the first day of the monthly schedule, so we've got plenty of time to make sure everything else runs on time. So it's over to Gary once more for the tricky and unpopular job of scheduling.

Essentially this is just a matter of setting deadlines for the in-house writers and coordinating the deadlines of the freelancers, to make sure that everything arrives in time. One problem is the amount of information that has to be juggled, but the most difficult bit is achieving a steady flow of copy into the office during the course of the month. It's no use if we get everything at the same time, two days before the magazine has to be printed. Gary is also responsible for making writers stick to the schedule. Most writers fear a call from the prod ed saying: "Where's your copy, then?"

the people behind the magazine

KARL FOSTER, SPECIALS EDITOR

Favourite games of 1992
1. Legend
2. Space Crusade
3. MS Windows Minesweeper
4. Forty Thieves
5. Magazines

Favourite creative software of 1992
C-Lab Creator 3.summit

Favourite hardware of '92
Apple Macintosh

Favourite films of 1992
1. Bladerunner 2 – the concept
2. Alien^3
3. Fuji

Favourite music of 1992
1. Skinny Puppy
2. Golgotha
3. Black Sabbath

Favourite book or other publication of 1992
AF Annual '93

the people behind the magazine

TIM SMITH, FEATURES EDITOR

Favourite games of 1992
1. Secret of Monkey Island 2
2. Sensible Soccer
3. Legend
4. Volfied
5. Pinball Fantasies

Favourite creative software of 1992
OpalVision

Favourite hardware of '92
Kidz Mouse

Favourite films of 1992
1. Naked Lunch
2. Bristol v Sunderland (away)
3. Everyone for Dennis

Favourite music of 1992
1. Body Count – Ice T
2. Mr Lucky – John L Hooker
3. Unmaker – Golgotha

Favourite book or other publication of 1992
Whose Game Is It Anyway?

SABRE TEAM

At 19.07 on the 5th of May 1980 John Dellow of the Metropolitan Police signed a document passing control of the Iranian Embassy siege to LT. COL H.M.Ross.

He sent in three, four-man teams (Sabre teams) of 22 S.A.S, the rest is history.

For many the S.A.S are the black-clad rescuers of Princes Street depicted by the B.B.C as the pictures of the last minutes of the siege were relayed live around the world.

We as mere mortals can only wonder at the exploits of this most professional and highly trained fighting force as officially it does not exist.

This simulation is based on the information that is available and is produced by people who have a great deal of admiration for the people they will never know.

AMIGA 1 meg only
£25.99
ATARI ST 1meg only
£25.99only
IBM PC
£34.99

KRISALIS SOFTWARE LTD

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8. Ear to the ground

Reviews of new products are a major part of the magazine and the amount of work it takes to get them together shouldn't be underestimated. Neil has to chase at every stage.

Neil regularly telephones the major games, software and hardware manufacturers and distributors to keep in touch with the news of their latest releases. Some companies have PR and publicity departments, but in many cases we deal with marketing people, product managers or even the company's owner.

Most of the firms are in the UK but many are in the US of A, which causes its own problems. It's strange 'phoning them at four in the afternoon and knowing it's nine in the morning over there... you're tired after a hard day at the office and they're all bright and breezy.

Anyway, what with regular phone calls, press releases coming in and so on, Neil has a good idea of what's due to be released in three or four months' time. First duty is to pass that information on to the readers, so Neil writes almost all of the news stories about new products and upcoming game releases.

Neil Jackson, reviews editor, trying to talk to a PR person and play a game at the same time.

9. Chase it up

Even while chasing up news of new products, Neil has to be keeping a close rein on what we can expect in for review. With serious products, both hardware and software, this is easier, because the companies producing the stuff allow more time. But with games, it can be wildly unpredictable whether a game will be finished and in for review, or not.

Obviously we can't print empty pages, so there's a lot of juggling to be done. As ever, it's down to Neil to keep those phone calls going and suss the latest state of play.

Naturally there's a thin line to walk here, because we want to make the magazine as up-to-date as possible and bring you the latest reviews every month. In some cases, where there's a big game on the way, this can mean waiting as late as three or four days before print deadline until a review copy arrives.

But sooner or later the packages start rolling in. Hardware we generally just ask for on loan, but software has very little material cost to a software house and so does not normally have to be returned.

Many games come in pre-production form, on plain disks with photocopied manuals, not all packaged up in the boxes as they appear on the shelves. These often have to be carefully locked away because they don't have the copy protection systems of the finished versions: though it should be stressed that the games themselves are complete in all other respects.

During the course of the month, in fits and starts, the review product we need trickles in. And then it's time for Neil to pass it over to the writers to see how it performs.

10. On test

If only we could just write whatever we wanted, off the top of our heads, it would be so easy producing *Amiga Format*. Ah, well. Instead we have to provide hard, reliable information which in the case of reviews, means that we spend a lot more time researching and testing a product than is actually spent writing.

Three years in a row – as long as the magazine has been in existence – it has been voted 'magazine most aiding stocking decisions' by computer retailers in the industry magazine *CTW*. Which essentially means that when a computer shop is deciding what games, hardware and software to stock, the magazine whose opinions they trust the most is ours.

We're not saying all our reviews are perfectly correct all the time. We all make mistakes, like the time we criticised a video titling package for not being able to justify text when there was an icon to do just that clearly visible on the screen-shot. Oops!

But generally *Amiga Format*'s reviews are the most reliable because we put time and effort into getting it right.

This means lots of time spent testing hardware, trying out software and playing games. Yes, I know it sounds like a holiday for most people, but you have to play games lots and play them hard before you can make a judgement. It's not always pleasant.

Inevitably one major factor is experience. Whether you're testing word processors or RAM expansions, you have to know what makes a good one and see how the one you're working on now matches up to the criteria. When the difference between a good program and a great one can be something as nebulous as the ease of use or the 'look and feel', you have to know what you're talking about, and that comes only with experience.

Tech Ed Pat trying to remember what plugs in where in the back of an Amiga 2000.

Most of the research takes the form of testing, and most of the testing process is taken up trying to find particular features. Frequently a criticism of a program might be that it can't do something that you would expect it to be able to do and often you will have to try and discover whether a program has an unusual way of dealing with its own shortcomings. In the course of a couple of days, you have to become an expert user of any particular piece of software, which is no easy task.

Exactly how much time is spent researching each piece it's difficult to say, because it will very often involve a writer taking home a piece of kit or a game and messing around with it late into the evening. But sooner or later, it's time to get it written up...

the people behind the magazine

PAT MCDONALD, TECH EDITOR

Favourite games of 1992
1. Eye of the Beholder 2
2. Links
3. Secret of Monkey Island 2
4. Putty
5. Act of War (PD)

Favourite creative software of 1992
Imagine V2

Favourite hardware of '92
The A4000

Favourite films of 1992
1. Huillam de Poisson
2. Alien 3
3. Hook

Favourite music of 1992
1. Angel Dust (Faith no more)
2. Autopsy's last album
3. Bleach (Re-release)

Fave publication of 1992
The Citizen's Charter! It's ridiculously funny.

the people behind the magazine

NEIL JACKSON, REVIEWS EDITOR

Favourite games of 1992
1. Formula One Grand Prix
2. Secret of Monkey Island 2
3. Civilization
4. Pinball Dreams
5. John Madden A Football

Favourite creative software of 1992
Pagestream 2.2

Favourite hardware of '92
GVP A530 Turbo

Favourite films of 1992
1. JFK
2. Batman Returns
3. Unforgiven

Favourite music of 1992
1. Ebenezer Goode – Shamen
2. Wish – The Cure
3. Bouncing off the Satellites – B52s

Fave publication of '92
The Nose (US satirical mag)

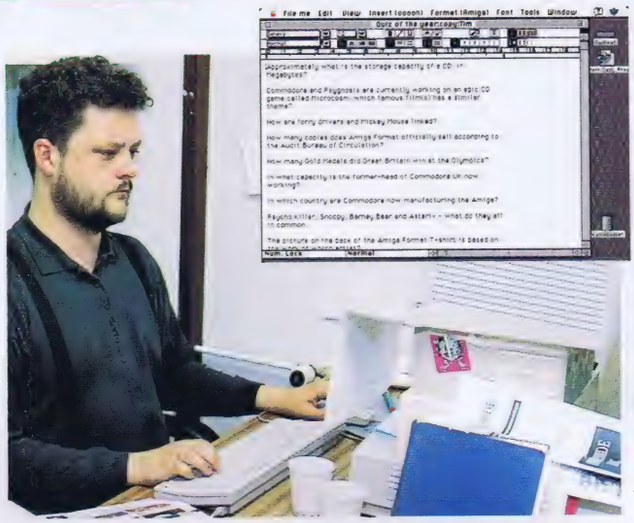
11. Wordsmithery!

Writing is done on either Amigas, using the word processor package *ProText 5.5*, or on a Macintosh using a similar program. And apart from that, what else can we say about this mysterious process? Well, quite a lot, actually.

The first thing that surprises most new writers is that what seems to be an enormous word count actually turns out to be very little space in which to get your points over.

Each page of ***Amiga Format*** contains something in the region of a thousand words, so even a two-page article is running to a couple of thousand words. Once you've got yourself sorted out, however, with some good research behind you, this may take only a couple of hours to write.

With limited space to make your points, being concise is the first rule of magazine writing. As with any other process that is considered creative, there are as many opinions about what makes good writing as there are writers, but in the computer magazine business information is more important than style.



Tim Smith, features editor and writer, errm... writing.

A good review will explain what is expected of a particular kind of hardware or software, and then go on to describe how the item being reviewed succeeds or fails in reaching these targets.

It's also useful to be able to pick out something that sets this item apart, very much like getting an 'angle' on a news story: 'this is the first accelerator under £100', for example, or 'this paint program has more painting modes than any other'. This gives the reader a good idea, right from the word go, of what kind of thing is under consideration.

Intro paragraphs are very important, because if there's nothing that interests you in the first two sentences, you're not going to read the article. It's simply not true that there are some pages in the magazine that some people won't find interesting – if we make it interesting and accessible enough, everyone should want to read every page. It's idealistic, but it's a target.

Anyway, the target for the writer is to provide good copy, written to the right length and on time. Time to sort out the pictures...

12. Get me a picture!

Reviewers are responsible for providing their own illustrations, in the form of screen-grabs, for software and game reviews. After all, who knows better which points need illustrating than the person who wrote the review?

Essentially, screen-grabbing means getting a picture on the screen and, rather than taking a photograph of it (which is called 'screen-shotting'), storing that screen display as a picture file. This can then be transferred over to the Macintosh computers we use to lay the magazine out.

There are three ways of doing this. If a program runs from Workbench and is multi-tasking, we can use a little program that also runs on Workbench. This program, when activated, grabs the screen display as it is stored in memory and saves it as an IFF picture to disk.

The only problem with this method is that it can't be used for menus or requester screens and it's no use for programs that don't run from Workbench, like games. In this case we use an Action Replay III cartridge attached to an A500, which lets us freeze the screen at any point, even when a menu is being held down, and save it out of RAM to disk, again as an IFF picture file.

Mac word processor Microsoft *Word*, on the left, and Amiga WP system *Protext*, on the right. We use both in writing *Amiga Format*.

Because of the clever things programmers can do with the Amiga's screen to make it look better, it's not always possible to do it this way, either. For instance, one common technique is to swap palettes half-way down the screen, so even though a game is, strictly speaking, sticking to the 32-colour limit, it might use a different 32 colours at the bottom of the screen from those used at the top.

Another very common technique is the 'copper list' colour trick, where the Amiga thinks it's just dealing with a single background colour but the copper co-processor (which is inside the 'blitter' on the Agnus chip) puts in a cycle of colours instead, giving those multi-coloured skies so common in Amiga games.

Trouble is, we can't grab games that use these fancy techniques. What we do instead is to take the RGB output of the Amiga and plug it into a real-time framegrabber (which happens to run off a Macintosh computer, but could just as easily be run on an Amiga).

And that's how we do screen images. If there's hardware under consideration, however, it's back to traditional methods. Get the hardware together and send it down to our friendly neighbourhood photographer, Ashton James, at his studio about 15 miles from Bath. One of our design team, probably Sue, will go with it to tell Ashton how we want it pictured – from what angle, with what kind of background and so on.

Ashton will shoot the pictures as 'transparencies' (on colour slide film) which then go to a firm in Bristol where they will be developed overnight or, if need be, in two hours. Occasionally we will use ordinary 35mm film, but mostly we use medium format 6-inch by 5-inch pictures, for greater quality.

13. Over to the sub!

With photography organised, screen grabs taken and the copy written, it's time to pass words and pictures over to Gary, the production editor. Gary will turn the words into proper English, but first there's a computer compatibility problem to sort out.

We lay out the magazine using a DTP program called Quark *Xpress* running on an Apple Macintosh computer. Even if it weren't true that the program is several times better than anything available for the Amiga, we'd still use Macs rather than Amigas simply because they are the standard across the company, which produces nearly 20 magazines and owns around 150 Macs.

the people behind the magazine

ANDY NUTTALL, STAFF WRITER

Favourite games of 1992
1. Putty
2. Sensible Soccer
3. Secret of Monkey Island 2
4. Pinball Fantasies
5. Zool

Favourite creative software of 1992
Directory Opus

Favourite hardware of '92
DCTV

Favourite films of 1992
1. Delicatessen
2. Unforgiven
3. People Under The Stairs

Favourite music of 1992
1. TNI – Front Line Assembly
2. Last Rights – Skinny Puppy
3. TV Sky – Young Gods

Favourite book or other publication of 1992
Carpet People – Terry Pratchett

the people behind the magazine

SUE WHITE, ART ASSISTANT

Favourite games of 1992
1. Secret of Monkey Island 2
2. Putty
3. Lotus 3
4. Dynablaster
5. Pinball Dreams

Favourite creative software of 1992
Quark XPress

Favourite hardware of '92
Distributor Cap on Ford Fiesta

Favourite films of 1992
1. Unforgiven
2. Bill & Ted's Bogus Journey
3. Delicatessen

Favourite music of 1992
1. Lynyrd Skynyrd at the T & C
2. Peter Gabriel – Us
3. The Cure – Wish

Favourite book of 1992
Haynes Owners Workshop Manual – Ford Fiesta

So Amiga text and picture files have to be translated across to the Mac. We use the program *CrossDOS* to write the data to PC format disks, which we can read in the Mac drives using the *Apple File Exchange* program supplied with all Macs. It's good news that *CrossDOS* is going to be supplied with Workbench from Version 3 onwards.

When the text files are physically on the Mac, all we have to do is turn them from Amiga files into Mac files. This is pretty straightforward using either a couple of programs we've written ourselves (*PtoMac* on the Amiga, converts *Protext* files to Mac; *Convert* on the Mac, which translates graphics files to Mac PICT format) or simply reading them in to Mac word processors and graphics packages that can read Amiga files.

Once he's got the words into his Mac word processor (Microsoft *Word*) Gary then sets about 'subbing' the words: correcting bad spelling and grammar, rewriting passages that don't quite make sense, querying with the writer anything that might need more explanation for the reader's benefit. Very often he'll do this on a print-out from our office laser printer, because it's easier to work with words on paper than it is to do it all on-screen.

14. Over to art

Once the words are ready, they are passed over to the art department along with all the pictures. All our Macs are connected on one network, so the layout designer can access Gary's hard drive to pull the text and picture files over.

Laying out the page on the DTP package is really quite simple. Essentially, both text and pictures are pulled into boxes on the page and then can be rearranged at will. Pictures can be resized, cropped, rotated, put in funny-shaped boxes and have their colour balance altered. Text can be put into different styles of type (typefaces) and made different sizes.

We work from a very strict style for all our type, which is set up in advance on 'style sheets' on each of the basic 'grids' or pages. Our 'body text' or main copy, for example, is the typeface Times at a size of eight-point with a line-spacing of 10-point leading.

Designers, artists or whatever you call them, hard at work doing what they do. Sue (top) has an odd technique, pushing the desk around while holding the mouse still with her other hand; Marcus (middle) watches the screen with his left ear; while Sal (bottom) uses a copy of the mag as a mouse mat.

Laying out the page is mostly just a question of changing the size of the headline type and shifting the picture boxes around until everything looks right. At least, it seems that simple if you don't know what's going on. Designers like our Sue go to college for years to learn about the balance and proportions of elements on a page, so there's more to it than meets the eye. And, of course, a lot of work was done by the art editor Marcus when he set up the text styles in the first place.

To a large extent we are able to work with 'total page make-up', including the pictures, because we use screengrabs so much. But if there's a photograph to be included as well, we have to leave a coloured block instead of a picture. The transparency will later be 'scanned' in and put into place, as explained later.

15. Proof of the pudding

Once the page is laid out, it's unlikely to be finished. The text might be a line or two too short or long and need a bit of tweaking, and then 'styles' like putting the titles of programs into italics need to be added. This is a job for the production editor, so the page is passed back to Gary.

After a quick look over on-screen to make the text fit and do the styling, Gary prints out a 'proof' of the page on our laser printer. This he then checks over again for mistakes, before passing it over to the editor for a final check over. Then there's one last thing to do before we print it...

16. Stick in the pictures!

Remember those transparencies that we just had to leave spaces for? Well, now it's time to put them on the page along with the text.

Until only a few months ago, we couldn't do this job in-house at all. Colour transparency scanners capable of giving the required quality used to be unbelievably expensive, up to a quarter of a million pounds. What we would do would be send the whole lot to a repro house, a firm that would do the scanning and then imageset the page to produce the finished film. Which was very expensive.

But not any more. We now have an in-house transparency scanner. So all our art people have to do is measure the transparency, work out what percentage it will have to be magnified by to fit into the box on the page, and write all this information on a laser-print proof. They then take it down to our scanning department, where the trannies are scanned and put on the page. Simple as that!

Simon Windsor operates the colour scanner, scanning in colour photographs at top-notch quality.

FROM SCREEN, TO PROOF, TO PRINT...

After the page is laid out on our DTP program (above), it's printed out as a 'proof' on a laser printer (near right). Only once all the corrections and tweaks marked in red are made will it go to be printed (far right).

17. Imagesetting (what?)

To get the quality of print for a professional magazine, you need something a little bit sharper than a laser print-out. So magazines, like most forms of design, are typeset.

Typesetting is a kind of photographic process that produces clean, sharp, black lettering, but as the name implies it only refers to type. Nowadays, we design the whole page on-screen, with the pictures in, and typeset the whole lot. Because it's got images as well, though, it's called imagesetting.

Essentially the process is very similar to printing out a laser print, except that the printer is a Linotronic or Scantext imagesetter, which costs around £40,000, and that we're not printing on to paper, we're printing on to a kind of photographic film, so the image has to be developed after it's printed.

It's not terribly glamourous, but the end product of all our work is film – see-through, acetate-like stuff with words and bits of pictures printed on it. Each page has four films, one for each of the coloured inks with which a full-colour magazine is printed – cyan, magenta, yellow and black.

The ad sales team at work, slaving over hot telephones: Rob (left), Louise (middle) and Cheryl (right).

If you're not familiar with the idea of four-colour printing, it's really very simple. In exactly the same way that red, green and blue can be mixed by a television to make any other colour, the 'subtractive' primaries of ink – cyan (pale blue), magenta (pink) and yellow – can be printed on paper to make any other colour. Almost. If you just use C, M and Y you can't get a deep enough black, so black is also used – and there's a surprising amount of black in the average picture.

So, anyway, our finished product is four sheets of film for each page of the magazine. But hold on a minute – what about all those advertising pages?

18. Soft sell

Well, the story of advertisements starts with the ad sales team – Duncan, Louise, Cheryl and Rob. These chaps are in constant touch with almost everyone who is making, marketing or selling products for the Amiga and work hard to supply the Amiga industry's advertising needs.

Essentially what they are required to do is telephone their 'clients' every month and check whether new products are being released and if – hopefully – more advertising may be required. Like many sales jobs, it's thought of as being pressurising people into spending money they don't want to – selling fridges to eskimos – but in fact that's untrue. Ad sales is mostly a matter of negotiating the right price with people who know what kind of advertising they need – and making sure that the clients' money brings effective returns. Otherwise, they won't want to advertise again.

When the ad sales executive comes to an agreement with a client, the ad is booked in and written confirmation is sent out. At this stage, the confirmation can be copied over to our accounts department to make sure that the payment comes in.

19. The really difficult bit

One of the unsung heroes of the magazine is the ad production person, Tracy. After the ads have been booked in by the sales people, it's up to Tracy to chase up the film for the advertisements in time for the print deadline.

In many cases, the typesetting and design will be handled by our ad production team. In this case it's up to Tracy to turn handwritten copy into a nice design, get it approved by the advertiser, and finish in time for the deadline.

John the imagesetter operator loading another cartridge of pages into the film processor.

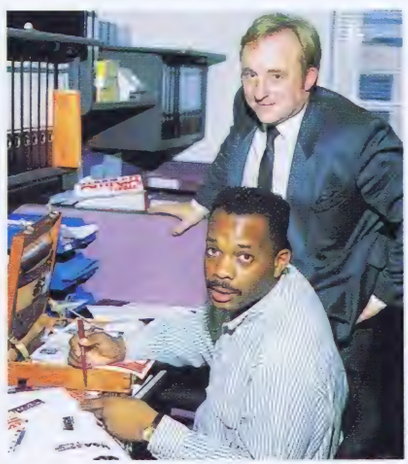
Tracy trying to pretend she's checking film, while giggling because she's having her piccie taken.

But finally she has the satisfaction of packing the whole thing up in boxes and giving it to a despatch rider to take to the printers in Plymouth. Now we can get some sleep…

20. To the shops

When it's printed and bound, the mag travels to a distribution warehouse. From here it passes to wholesalers who then pass copies on to the local shops. It's a complicated process and to make sure it happens smoothly, and that *your* local shop doesn't run out of copies, we have our own in-house circulation team.

And so eventually, two weeks after our print deadline and six weeks after we started writing it, the issue goes on sale: only thanks to all the hard work of all these people.



Circulation boys Tom (front) and Dave (behind) have to get the magazine to the newsagents.

the people behind the magazine

MARCUS DYSON, ART EDITOR

Favourite games of 1992
1. Zool
2. WizKid
3. Parasol Stars
4. Secret of Monkey Island 2
5. Pinball Fantasy

Favourite creative software of 1992
Pagestream 2.2

Favourite hardware of '92
DCTV

Favourite films of 1992
1. Naked Lunch
2. Batman Returns
3. The Hand that Rocks the Cradle

Favourite music of 1992
1. Buffalo Tom
2. The Lemonheads
3. Mudhoney

Favourite book 1992
The Curious Case of Sidd Finch

the people behind the magazine

SALLY MEDDINGS, SPECIALS ART ED

Favourite games of 1992
1. Titus the Fox
2. Pinball Dreams
3. Parasol Stars
4. Secret of Monkey Island 2
5. Kick Off 2

Favourite creative software of 1992
Pagestream 2.2

Favourite hardware of '92
Apple Mac IIci

Favourite films of 1992
1. Beauty and the Beast
2. The Sound of Music
3. To Kill a Mockingbird

Favourite music of 1992
1. KD Lang
2. Dusty Springfield
3. Rolf Harris

Favourite book or other publication of 1992
Donald Duck and Friends

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Publisher **Greg Ingham** attempts to explain how **Amiga Format** will meet the challenges of the coming year, which is not as easy a task as it first appears...

"Bigger, better, more"

MAGAZINES – THICK, THIN, dull or bright, weekly, monthly, quarterly, fortnightly or bi-monthly; titles – cheap, glossy, sexy, dismal, powerful or flimsy; organs – epoch-making, squirm-inducing, time-wasting, Zeitgeist[1]-defining; periodicals – for women, for men, TV watchers, music listeners or car drivers; magazines that innovate, imitate, survive or swagger – so where the hell does ***Amiga Format*** fit in?

Well, aside from self-serving subjective judgements about it being the greatest magazine in the world (which is quite possible: something has to be), the following are rock-solid statements:

- It's the biggest-selling leisure computing magazine in the world.
- It's Europe's biggest-selling computer magazine.
- It now outsells all music and car magazines, and is the largest-selling male magazine in Britain outside the skin mags. (It also entirely duffs up the likes of *GQ*, *Sky*, *Empire* and *Vox*.)
- It's the 51st greatest-selling magazine in the UK (just behind *TV Hits*, but ahead of *Q*).
- It's the fifth-largest billing monthly in Britain (multiply the cover price by the average number of issues sold in a month and it's just ahead of *Good Housekeeping* and just behind *BBC Good Food*).
- It's usefully in possession of a 60,000 lead over its nearest Amiga magazine rival – the biggest lead it's ever posessed.
- It's occasionally quite good.

So what's next? A man with a clear idea of what he will be doing in a year's time is one of three things: a fool, a genius or a bore. And so it is with trying to anticipate the future of ***Amiga Format***. You might as well attempt to juggle sand as try to explain in any detail what it will be doing in 1993.

(Go read something else. I would. This is all made up and is not to be trusted. Believe me...) OK, here goes.

Take one: ***Amiga Format*** in 1993 will continue to pioneer, innovate, entertain and inform. It will lead the Amiga magazine market by... (yep, you can probably imagine the rest, plodding its way glumly to the foot of this page.)

Take two: try again. As next year develops, ***Amiga Format*** will go fortnightly from sometime around the beginning of the fourth month. This bold increase in frequency will better enable us to cover the protean[2] Amiga scene™. So it'll cost you £7.90 a month, but no-one said knowledge comes cheap, right?

Obviously bonkers. And yet, and yet... Just look at the last two years and see if you can make sense of it all. In 1991, we had the temerity to launch *Amiga Shopper*, for those readers wishing for an exclusively serious magazine, and *Amiga Power* for games fans.

'***Amiga Format*** will ineluctably[3] suffer', said rivals, critics and a sceptical computer trade. *Au contraire*, we chirrupped. (Actually, we did nothing of the sort. I told you this is all made up. And the others have no notion of something 'ineluctably' suffering. But we'll just let that one pass.) ***Amiga Format*** carried on regardless, soaring from 81,234 sales every month in the first half of the year to 130,143, in the second, aided no doubt by the tremendous World of Commodore Show that was held at Earls Court last November.

And then this year, we have not only added these ***Amiga Format Specials*** but we've also pioneered the full program on the second Coverdisk malarkey. Sales promptly popped up to 161,256 for the first half of the year. This level of sales means that a single-format computer magazine now manages to outsell all music magazines. And it terms of retail revenue, it's the fifth biggest-billing monthly of any sort in Britain. Crazy, but there you have it... And that's all prior to tripling the World of Commodore into this year's Future Entertainment Show.

> "In 1993, ***Amiga Format*** will only be available on CD. So if you want to be able to read about this protean Amiga scene™ then you'll have to buy a CDTV or A570, or even a new model of CD-driven Amiga"

So, given the more-mags-plus-Show routine in '91, and the more programs and more mags and even bigger Show caboodle in '92, what are we going to do for an encore?

(It's curious, but do you get the impression I'm finding ways of avoiding answering this particular question? Well, I could say that I can't go into detail for fear of our rival publishers copying us – which they do, inevitably and badly – but that's quite implausible. The truth is, I honestly do not know yet. We make it all up as we go along: I cannot tell a lie. But without further ado, back to the show...)

Take three: try yet again. By the end of 1993, ***Amiga Format*** will only be available on CD. So if you want to be able to read about this protean Amiga scene™ in your favourite magazine, then you'll have to go out and buy a CDTV or 570 drive, or possibly even some new model of CD-driven Amiga. There – that should please Commodore.

Hmmm, there could be a smidgen of truth lurking in here. Just what will ***Format*** do next year if/when CD takes off? Probably agonise over whether it should follow the market as it is maturing, or lead it and make it all happen. My guess is that we'll go for it, big time. But I told you before not to believe me. Onwards, upwards, etc...

Take four: ***Amiga Format*** will temporarily close next year, faced with the Gadarene[4] rush towards consoles. The efforts of Gremlin with *Zool*, Millennium with sundry fish-tastic efforts, Ocean with *Bub & Bob*-type cutesiness and Psygnosis with *Lemmings*-derivatives will all come to naught: consoles rule.

Yeah, so this is a pretty dismal scenario. But what's a wee mag supposed to do, beyond hibernating until the computer cycle comes around again and Nintendos and Segas become the Atari VCSs of the '90s? Don't worry, we'll be open for business once more in September 1995.

Take five: ***Amiga Format*** will move into overdrive. Massive issues, valuable cover-mounts, innovative adoption of CD, books, spin-off mags, bi-monthly Specials, Amiga-specific shows, tutorials, videos, magazines inside all Amiga boxes, T-shirts, mugs – Amiga everything. So maybe one or two of those may not happen: so sue me already.

But one thing's for certain: ***Amiga Format*** in 1993 will be some kind of wonderful.

Notes: Greg is our publisher, and therefore our boss. He also uses interesting words. We looked them up. Here is what they mean:

[1] *Zeitgeist – a vintage Cognac.*

[2] *Ineluctably – inescapably silly.*

[3] *Protean – a complex nitrogenous chemical nutrient found in milk, fish and eggs.*

[4] *Gadarene – indicative of mass panic and headlong flight towards disaster [from the swine of Gadara, Matt. viii 28] and nothing like the **AF** team near deadline.*

1992 Games without frontiers

Sprites galore ran riot over the cover of *Amiga Format* issue 18 – the Christmas issue. Anyone lucky enough to have got a copy (it's sold out now) will have enjoyed the full-price game *Interphase* given away on the coverdisk. My word, aren't we generous.

Classic games have come and gone this last twelvemonth, but there could be a great deal more to follow in '93. **Mark Ramshaw** picks out the very best titles of the year, just in case you missed something unmissable: and talks to the people who know, the game developers, about what they've got up their sleeves for next year...

WITH NIGEL MANSELL dominating the Formula One season, it's appropriate that we started the year with a classic like F1 Grand Prix from MicroProse, surely the best driving simulation ever to appear. From there on in it's been a story of the most amazing technical advances in gaming, ending up with Zool, probably the ultimate arcade game. But there's more to come!

FROM *F1 GP* to *Zool* is almost from one extreme to another, but there's been plenty of shades of grey in between. Over the course of the year, there's probably at least one game that you will remember as a total classic, whatever your personal tastes.

Sports sim fans could not fail to have been hooked by *John Madden's Football*. Those who like their games to be action rather than tactics will have been knocked out by *Sensible Soccer*. Adventure fans were particularly well off for something to explore, with *Eye of the Beholder 2*, *Lure of the Temptress* and *Legend* all bringing something new to what is possibly the oldest game style.

Serious strategists went from primitive to sophisticated with *Civilisation*, while arcade fans were spoilt for choice – *Wizkid* and *Putty* both demanding attention and both as different from each other as they were from *Zool*. And last, but in so many ways first, *The Secret of Monkey Island 2* is a game that no-one, but no-one, could possibly avoid being entranced by.

The Amiga was supposed to be under threat from the popular games consoles (mere toys!) in 1992, but instead what we've seen is that those great games we all played a year or two ago – *Lemmings*, *Robocod*, *Populous*, *et al* – have been snapped up by console devotees eager to get something decent to play. Two-year-old games? Not on the Amiga, mate!

So with all the real talent working on Amiga games first and foremost, what innovations can we expect to see on the games scene next year? Well, who better to ask than the programmers, software people, and software house directors. And so ask them we did, kicking off with *First Samurai* man Mev Dinc.

We could have settled for the easy questions, like 'What games are you doin' next year, then?' – but there's more to the Amiga than that. Over the last year, we've seen major changes that are going to change the face of software as we know it. So we've asked them about that, as well.

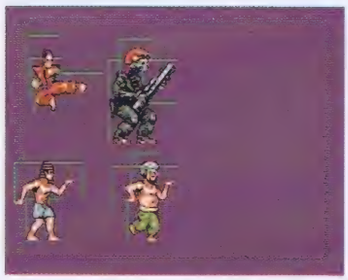
Will the defeat of piracy bring us all cheaper games? How is the arrival of CD going to affect us all? Will we be getting software on smart cards? Was the A600 a good idea? Is the amazing graphics capacity of the A4000 going to change the face of games?

We're not promising that all these questions will be answered in the next few pages. But a few of the most valid opinions in the Amiga world await you...

MEV DINC
VIVID IMAGE DEVELOPMENT

"Obviously I've been working hard to recover from the demise of Mirrorsoft at the beginning of the year [Mev's *First Samurai* had just been released on Mirrorsoft's Image Works label shortly before its demise]. We finally got over that, got *First Samurai* re-released by UBI Soft, and now we've got two projects in development for the Amiga. *Second Samurai* is currently without a publisher, while our other title, a Grand Prix management and racing sim, is being developed for Virgin. Both games are scheduled for a release in Spring '93.

Some of the enemy sprites from the forthcoming *Second Samurai*.



Vivid Image has found a publisher for *Second Samurai* in Virgin.

"As we haven't really had anything new published this year, we're not too aware what sales are at the moment. But it is obvious that piracy is affecting Amiga sales very badly – CD is definitely the right way to go forward. I believe that the technology will provide the main bulk of the market in the next couple of years. As for Commodore's A4000, our main concern with it at the moment concerns product compatibility. We just recently learned that changes were necessary to the *Second Samurai* code to make it operate on the machine.

"I'm very dubious about the pricing of the A4000. Amigas are too expensive. Although it's a computer, and capable of much more than a console, the Amiga is mainly used as a games machine. And as a games machine it just costs too much when compared to the 16-bit consoles. I think people are beginning to think twice before buying an Amiga. Commodore should just accept that Amigas are used primarily as games machines, and market the machines accordingly."

Mev impressed everyone with his *First Samurai*. But after a turbulent year, with the demise of Mirrorsoft, can he and Vivid deliver the goods with *Second Samurai*?

From early demos of *Second Samurai* it certainly looks impressive enough to put Mev and the Vivid Image boys right back on the commercial map, but his points about Commodore's pricing are certainly food for thought. Mev also seems to be echoing what many others in the industry are saying about the move towards CD to combat piracy.

GAMES DIARY

THAT WAS 1992, THAT WAS

It was the Amiga's finest hour, the year in which Commodore released another model of its beloved machine, when the CD-ROM drive saw the light of day, and when software reached heights nobody could have dreamed of back in 1985, when the Amiga was launched.

Over the next few pages we take a look at the events of the year, we find out just what the industry thought of it all, and then take a look towards 1993.

We also delve into the anatomy of those cute Lemmings to find out what really makes them tick, and guide you through the plethora of gadgets, wodgets and widgets, which you really must have. And here is your host is **Mark Ramshaw**...

***Celtic Legends*: popular with the critics but not the buying public.**

***Birds of Prey*: plenty of flying hours but not quite slick enough.**

***Another World* had graphics that were out of this world.**

JANUARY

The year began shakily with concerns over software compatibility between the A500 and A500 Plus. The situation wasn't as bad as initially suspected, and subsequent game releases had no such problems, but for a moment the A500 Plus seemed like a very strange idea.

The big game of the month was Bullfrog's *Populous 2*. God-sim guru Peter Molyneux refined the original concept of its predecessor, and redefined the god sim market in the process. The cynical accused Bullfrog of reselling the same game in a new box, but its success put paid to such catcalls. *Amiga Format* reviewer Trenton Webb announced that "the game of the year is here!" – presumptuous, but not far off.

Aside from the reappearance of everyone's favourite suicide cases in *Oh No! More Lemmings*, January was something of a heavy month all round, with the strategic *Celtic Legends* from UBI Soft striking a chord with critics everywhere – though not the buying public.

Licensed games failed to make the grade, with the appalling *Captain Planet* from Mindscape and Image Work's shameful conversion of the *Cisco Heat* arcade game. Weeks later, *Mirrorsoft* went under (ahem) in spectacular fashion. The only downside was the disappearance of *Mega lo Mania*. Thankfully reports of its demise were exaggerated and, thanks to UBI Soft, it's now alive and available in a special price doublepack with *First Samurai*.

FEBRUARY

Only one month in and already things seemed to be falling into familiar patterns with the good – US Gold's *Another World*, the bad – *WWF* (with *Space Ace II* not far behind), and the ugly – *Mercenary III*. Paul Woake's third installment (which despite appearances contained a bit of depth) in the series was to be his, and the publisher, Novagen's, last as they quietly slipped away.

The 'oohs' and the 'aahs' which *Another World* was extracting aside, February was less spectacular than the previous month. No new companies emerged, none went under, and dodgy licences continued to plague the Amiga games-buying public (remember *The Godfather*?).

ANDREW BRAYBROOK

GRAFTGOLD

"How was 1992 for me? Very good. It started off dismally with the downfall of Mirrorsoft who were originally destined to be the publishers of our *Fire And Ice* project, but we've managed to come up trumps by signing up with Renegade.

"*Fire And Ice* seems to have been fairly well accepted, so now I'm just waiting for all the money to come rolling in. Meanwhile though, I'm well down the road on *Uridium 2*. It's a case of taking the original over on to the Amiga, and saying 'where do we go from here.' I've got most of the code in there, now it's just a matter of sorting out the graphics and deciding exactly what to put in there.

"This year seems to have been very quiet. From what I've seen of *The Chaos Engine*, it looks very promising, although in general arcade games seem to be a lot less popular on the Amiga compared to the consoles – role-playing games are becoming far more prominent. I guess in the past year the Sega and Nintendo systems have really started to eat up that area of the market. What I find really astonishing, though, is the amount of disks which games manage to consume these days. I'm certainly not expecting *Uridium 2* to take up more than two disks.

***Amiga Format* thought *Fire and Ice* was so good it was awarded it 89 per cent.**

"I'd like to get in there and get working on the likes of the A4000, though we don't really have that much contact with Commodore – everything tends to filter down through the publishers. The rumours of a baby A4000 sounds quite promising. Of course the advantage of developing a new Amiga, is that you get all that extra power but things are relatively easy to alter. I've actually had to sell my Amiga 1000 this year, so when I get the chance [when the royalties from *Fire and Ice* come along?] I may well buy a new Amiga."

DAVID BRABEN

AUTHOR OF ELITE AND FRONTIER

David Braben shot to fame back in 1984 with the award-winning *Elite* for the BBC Micro. Converted to the Amiga in 1987, *Elite* still remains a landmark in computer gaming. Mr Braben is now putting the finishing touches to *Frontier*, the long-awaited follow-up to *Elite*.

"It's definitely been a very busy year for me. After working away on the sequel to *Elite* for four years, it's just about ready for release. It's already got the tag *Elite 2*, which I'm not particularly keen on. I don't really want people to have any preconceptions about the game. Although *Elite* will get some kind of mention on the box, the official name is simply *Frontier*.

"Looking around at the Amiga industry I think that things have degenerated quite a bit, which is rather sad when you think of what the alternative is. Piracy is now forcing developers to leave the Amiga, although the impending release of the A4000 is a good sign for the industry. It will provide an upgrade path for existing Amiga owners, ensuring that the Amiga survives for quite some time to come. The software developers will be able to take advantage of the new technology while still catering for existing owners, and of course all those people who manage to upgrade will already have a collection of compatible software."

***Elite 2* – or, as David wants it to be known, *Frontier*.**

David has been working on this epic for four years – let's hope it's a goodie.

GAMES DIARY

***John Madden Football* finally made it over from its Mega Drive roots.**

***Shadow Worlds* impressed despite its derivative graphic style.**

Originally planned for April, *Campaign* didn't make it until November.

***Hare Raising Havoc* had great Roger Rabbit looks, but lacked gameplay.**

MARCH

March was an altogether more-together month. The big news for games-heads came from programming supremo Sensible Software, with the announcement that *Mega lo Mania II* was on the way. Sadly, it was to be abandoned by mid-summer, but fear not – work on the project has recommenced, and a release is scheduled for Spring '93.

Release-wise, all tastes were catered for. A respectable conversion of EA's classic Mega Drive game *John Madden Football* catered for the sporty types and Americana fiends, while Gremlin's *Harlequin* temporarily satisfied the eternal hunger of the platform fan, and Domark's *Shadowlands* confused and delighted adventure fans with its bizarre light-sourced 3D routines. The same graphic style has since been implemented (to greater effect) on Krisalis' *Shadow Worlds*, with a more suitable *Alien*-style scenario replacing the fantasy plot of the first game.

Meanwhile, software houses were offering the very first tasters of potential number ones, with *Titus The Fox* (from Titus, logically enough) and Team 17's *Project X* peeking out from under the programming covers. Ahh yes, by March the year was shaping up rather nicely thank you.

APRIL

The CDTV beast reared its head in April, with confirmation of support from Virgin and Electronic Arts. Music CDs with accompanying graphics were also touted for the first time. Beyond their novelty value it was hard to think of a use for the idea, but it was to re-emerge later in the year with one CDTV supporter scooping an award for a Karaoke system.

Also meant to be showing out was Empire's long-awaited tank-based action/strategy war epic *Campaign*. "Watch out for this next month", said Neil Jackson. Programmer Jonathan Griffiths obviously had very different ideas and the game has only just seen the light of day.

One game which suffered no such problems in slippage was *Pinball Dreams* from 21st Century. An outstanding representation of arcade pinball tables, nobody could have guessed just what a games-players' favourite this would become. The programmers are about to serve up another slice in the form of *Pinball Magic*, but it remains to be seen whether it'll find a place in gamesplayers' hearts in quite the same way the first game did.

***Hare Raising Havoc* was perhaps the most lamentable release of the month. Catering for hard-drive owners only, Infogrames bash at offering a *Roger Rabbit* cartoon experience looked and sounded great. Unfortunately, in play it fell flat on its face, and held about as much life as rabbit pie.**

JEREMY SMITH
MD OF CORE DESIGN

Another comparative baby of the software industry is Core Design, which has transformed from a product development team into a fully-fledged software house with apparently little pain.

"The end of 1992 will be our third Christmas as a fully fledged software publisher, which of course is personally very exiting for us all. From releasing *Corporation* just three years ago to releasing the likes of *Curse Of Enchantia* this Christmas, we just keep on expanding and growing beyond all of our expectations. It's quite simply tremendous.

"As for the computer industry as a whole, the console is admittedly more important at the moment – it seems to have been Sega and Nintendo's year. Having said that, though, we'll be maintaining our strong commitment to the Amiga, and to CD. 1993 will see the release of our first CD software for the machine. One or two of our existing titles (such as *Enchantia*) are in development for CD, as well as a couple of dedicated games."

One of Core's offerings to the platform genre this year was *Premiere*.

Core's Xmas offering is the 200-screen graphic adventure *Curse of Enchantia*.

Core's views seem to reflect those of the entire Amiga industry at the moment. Everybody is worried about the scourge of piracy and the prominence that the consoles have taken, but people remain optimistic about CD formats and the new 'super Amigas'.

TOM WATSON
RENEGADE

One company which has certainly established itself as a prominent publishing house during 1992 has been Renegade. Having gone from industry outsider to a high-profile, reasonably high-output software house, it is interesting to hear what top man Tom Watson's views are on the year.

"The great thing about 1992 has been the release of *Fire And Ice*, *Sensible Soccer* and *The Chaos Engine* – all three of which are great products, and are released by us, incidentally. And of course we've got *Ruff And Tumble* and Andrew Braybrook's *Uridium 2* off the ground too. Looking around at the rest of the industry, CD is certainly looking very promising and could be the way to go. We'll be releasing *Sensible Soccer* on CD – it'll be interesting to see how that one comes off.

"We're not really involved with the Amiga 4000 as yet, but that will possibly change as 1993 bears upon us. One

The Chaos Engine has yet to be released, but the demo was more that promising.

of the more interesting aspects of 1992 was the announcement of the next generation of hardware technology. It feels like we actually have machines and specifications which will take us to a new level over the next few years. Of particular interest and promise I think is Atari's Falcon, which certainly looks capable of putting Atari back into the running (laughs).

"There have been three main points of interest about the year for us. First of all the products, second the establishment of Renegade as a creative force in the software industry – with a cream of programming that has come in the form of the Bitmap Brothers, Graftgold and Sensible, etc.

"And finally, with new technologies coming through, the industry finally has got some 'arrows' pointing towards the way ahead."

GAMES DIARY

Titus' eponymous *Fox* was another great cutie platformer.

Vroom wasn't based on one particular game, but it was great fun.

EOTB2: the eagerly awaited sequel delivered the goods.

Might and Magic 3, another RPGer full of strategic and combative action.

MAY

A month of BIG things is perhaps the best way to describe May. As if sister magazine *Amiga Shopper*'s sellout computer show wasn't news enough, Commodore bowled one and all over with the announcement of the A600. Featuring a new Workbench, a new edge connector but lacking a numeric keypad, the A600 once again raised that good old compatibility problem. Thankfully, aside from games requiring a numeric keypad, the A600 was fully compatible with the A500 Plus at least. Phew! And the A500 Plus? Consigned to an early grave, would you believe. Who can follow the whims and ways of Commodore sometimes? Luckily, CDTV owners were having more luck, with MicroProse, Mindscape and Psygnosis all pledging support for the remarkable silver disc. None of them have yet produced anything of note for CDTV, but presumably 1993 will change all that.

After sticking its head out for a brief moment back in March, France's *Titus The Fox* finally burst on to the scene, impressing one and all with its cartoon antics. But the show was really stolen by two titles from another French outfit, namely UBI Soft. Vroom entered the 3D track racing arena and proved that there was none faster, while *Dynablaster* (also known as *Bomberman*, for reasons which really aren't interesting enough to go into here) broke new ground in terms of multi-player fun. Offering not one, not two, not three, but five simultaneous player fun, *Dynablaster* gave the Amiga games scene a much needed social boost. It's a shame that *Dynablaster* never received the success it deserved.

JUNE

Smart cards for the forthcoming A600 were the talking point for the industry in June. Although potentially piracy free, it seemed nobody was prepared to commit themselves, opting instead to wait and see.

Games-wise, adventures and shoot-'em-ups were in abundance. They ranged from the atrocious – Sierra's *Leisure Suit Larry 1* (a re-written version of the first in the *Larry* series) and *Space Quest IV*, to unspectacular yet satisfying – US Gold's *Eye Of The Beholder 2* and *Might & Magic 3*. Role-playing games seem to suffer from sequel-itis more than any other genre, and June was a perfect example of great adventure games, but a lack of new ideas. Kevin Bulmer's *Legend Of Valour* is due for release soon, boasting texture-mapping, intelligent characters and other breakthrough techniques.

The shoot-'em-up contingent didn't have anything to complain about, with the stunning (but overly difficult) *Project X* from rising stars Team 17, and *Apidya* from German software house PlayByte. With its myriad of soundtracks, user-definability and lovingly created levels, *Apidya* instantly gained the status of the ultimate Amiga shoot-'em-up.

June was notable for Empire's excellent tank strategy blast *Pacific Islands* and Ocean's magnificent *Addams Family*. The odds were against them, with the choice to base a platform game around a tenuous movie licence, but its success couldn't be argued. What with this and *RoboCop 3*, it seemed like the software industry was finally getting the hang of movie licences.

PETER MOLYNEUX
BULLFROG

Peter Molyneux and his team of Bullfroggers made their mark with the archetypal god sim *Populous*. The game offered ambitious (for the time) isometric 3D views of a game world where computerised people went about their lives under a sort of indirect control by the player.

Bullfrog followed this with *Powermonger*, a wargame extolling the same virtues as its first hit. Some failed to the see the attraction of 'indirect control', thinking it a strangely cold way to play games – but the commercial success of Bullfrog is beyond doubt.

"1992? Well, we've expanded to 20 people, which can't be bad. But it's been something of a mixed year, with disappointments and surprises. CDTV was a disappointment, I'd hoped to see it become more successful. But at the same time, Commodore have excited me with their new A4000 machine – although details at the moment seem to be a little hazy. In fact, everyone seems to be releasing machines at the moment.

"The Amiga 600 has been good, although it caused loads of hassle because of the absence of a keypad. And I've been really pleased that CD is really starting to happen for some machines, and I think it will eventually catch on for the Amiga. And of course, the other great thing for me personally the success of *Populous 2* – as we speak it's still number five in Virgin's chart. Plus we'll hopefully have *Syndicate* released in the near future .

"The most amazing thing about 1992 has been the number of football games! On the positive side, *WizKid* was pretty wacky, which is a good thing. The one I'm really waiting for though is *Elite II*. The original *Elite* was probably the first computer game I ever played, so this a real event for me."

Peter pats Sensible on the back by saying that *WizKid* was one of the highs of 1992.

The most eagerly anticipated game of 1992 just had to be *Populous 2*.

As god games go, this one was possibly the highest deity of the lot.

Bullfrog, pictured, is currently working hard on *Syndicate* (previously previewed under the *Bob* monicker) a tale of spying/exploration and genetic engineering.

GAMES DIARY

***Monkey Island 2* was everything a good sequel should be.**

Finally there came a sequel to *Rainbow Islands* in the form of *Parasol Stars*.

***D-Generation*: a genuine price drop or just not that good? You decide.**

***Epic*: a big hiccup for Ocean in what otherwise was a successful year for them.**

JULY

July and the A600 finally happened, and the A500 Plus was dropped. In reality, it hardly effected the Amiga world, but was a positive step in the long term. Fun-wise, one game stood head and shoulders above the crowd. Eagerly awaited for the best part of the year, *Monkey Island 2: LeChuck's Revenge* finally materialised and, despite the hiccup of sprawling itself over 11 disks, it instantly found a place in Amiga owners' hearts. This sequel managed to outdo its predecessor in every area, without losing the elements which established the original in the first place. If you only ever buy one graphic adventure game, then *Monkey Island 2* has to be the one.

US Gold's much vaunted *Links* finally emerged and, although by no means the last word in golf sims, its visual style couldn't be faulted.

The job of filling the slot for Obligatory Role Playing Game for the month fell to Mindscape with *Legend*, from cult programmer Tag. Thankfully, *Legend* offered so much more than its contemporaries, with a mixture of classy 3D isometric graphics, mouse control system and an accessibility rarely seen in games of this depth. A real classic.

Not to be outdone, Virgin got all hot under the collar with the *'Monkey Island* beating' *Lure Of The Temptress*. It didn't, but it was a damn fine game anyway. Oh yes, and *Cover Girl Poker* was unleashed, with accompanying tacky coverage in the gutter press and bad reviews all-round. It's not really worth wasting column space on, so let's not.

AUGUST

Mindscape got courageous, releasing its isometric arcade exploration fest *D-generation* at £19.95. Controversy still rages as to whether this is simply because the game is sub-standard – *Amiga Format* awarded it just 66 per cent – or whether it was a genuine stab at introducing quality titles at a reasonable price – *Amiga Power* gave the game 88 per cent, urging all readers to support the pricing move.

Core let its Jaguar game out of the cage, pitting it against Gremlin's *Lotus* games. Undeniably neat, *Jaguar* didn't fulfil its potential, and, a track designer aside, it failed to significantly improve upon Lotus II.

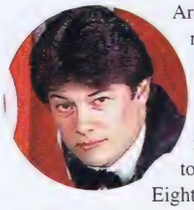
August also saw the first *WizKid* reviews, although the game itself was delayed until September. Ten months after it was first touted, Ocean's *Epic* went to the top of the charts. The subsequent reviews and buyers' responses painted a different picture, however. Suffice to say that it didn't fulfil its potential.

One game which exceeded expectation was *Graham Taylor's Soccer Challenge*. Football management games are hit and miss at the best of times, and given Graham Taylor's reputation at the time, the game was almost a laughable concept. Yet, it succeeded, offering the best slice of footy management Amiga owners have yet seen.

Other grooves of the month included The Perfect General – a hard-core wargame which managed good reviews, and *Ashes Of Empire* – a 3D strategy arcade adventure which mirrored the social and political events in the Soviet Union.

ARCHER MACLEAN

AUTHOR OF IK+, JIMMY WHITE'S WHIRLWIND SNOOKER AND POOL



Archer Maclean must be now one of the most established programmers in the industry. He rose to fame in the mid-Eighties with a beautiful C64 game that went by the name of *Dropzone*. Since then Archer's written the ultimate martial arts celebration of violence, *IK+* for System 3 on the C64 and the Amiga, and achieved huge commercial success with *Jimmy White's Whirlwind Snooker*, one of the most successful (both critically and commercially) licensed sports games ever to appear on either home computer or console formats.

If you don't recognise this game, then where the hell have you been all year?

Archer has spent the year working on the obvious follow up to *Snooker... Pool*!

"This year has been seriously hectic for me, and I'm only now managing to get *Pool* finished. I don't know where to start at the moment. What with juggling PR, games writing and project managing tasks (other versions of *Snooker*), it's most certainly been a busy year. And then of course there's my very active social life, but we'd better not go into that.

"I don't really think things in the Amiga games market have changed a great deal throughout the year, although there have been a fair few problems with the Amiga hardware-wise. On the software side of things, there are definitely more products making it on to the Amiga, which can only be a good sign. At the moment everything seems to healthy enough on the Amiga, it's still a major platform for launching new games. Economically at least, the Amiga is still a very worthwhile machine to develop for. I know that, although I'm keen to work on other machines, I intend to develop software for the Amiga for quite some time.

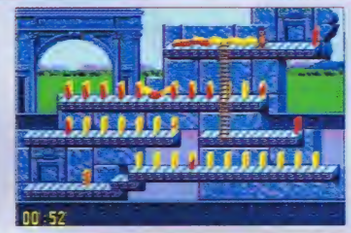
***Pool* uses the same tried-and-tested formula that made *Whirlwind Snooker* such a big hit. Can it match its success though? Will it still be in the Top 20 this time next year?**

"It's very important that users don't fall for the Japanese consoles too much. If you look right back to console days of 1983, everybody did the same with Atari's VCS system, then the market was bled dry and it soon collapsed because of it.

'The next thing that I've got planned is something I've been planning for some time: a holiday. Then I've got *Snooker* and *Pool* to produce on countless different formats. Then maybe, I might finally get around to programming *Super Dropzone*."

GAMES DIARY

"You won't notice *Lotus*, and *Jag*'s a drag compared to *Crazy Cars III*."



***PushOver*: very much in the *Lemmings* vein, and almost as addictive.**

Platformers like *Putty* helped reaffirm the Amiga as the games machine.

***Zool*: Gremlin's *Sonic* and *Mario* beater. If you buy a game this year, buy this.**

SEPTEMBER

By the end of the summer Commodore's long-awaited A570 CD-ROM drive finally went on sale, though we've yet to see anything of significance appear. Certainly the likes of Psygnosis' *Microcosm* and Virgin's *7th Guest* promise much, but so far there has been a lack of CD-only titles worth mentioning. Direct ports and CD-enhanced versions of older games will not be sufficient to push CD technology through, and 1993 will be the make or break year for Amiga CD.

Meanwhile, in the world of games releases, Titus claimed *Crazy Cars III* was astounding, and it was. Pushing arcade playability to the limits, *CCIII* really is something special – instantly pushing its way to the top of the driving pile.

Ocean meanwhile was playing with new game ideas and marketing concepts. Its neat platform puzzler *PushOver* found its way into a Quavers TV ad, along with a little help from Commodore. Nice promotion if you can get it. *Hook* was its other biggie of the month – another game to cause controversy. Some compare this graphics adventure quite favourably to US Gold's *Monkey Island*, others slam it as small, superficial and unfunny. The adverse criticism is probably because *Hook* is aimed at younger adventure players – at least it captured the feel of the movie.

***Civilization* was the only other real 'name' of September. A global strategy game of conquest, discovery and progress, this effort from Sid Meier at MicroProse was over ambitious, but with patience, the results could prove very satisfying.**

OCTOBER

Commodore was at it again by October, putting the cat among the pigeons with news of an A600 price cut to £299, and Christmas packs were launched, containing such choice games as *Putty*, and *Formula One Grand Prix* (not to mention some great serious products in the shape of *Deluxe Paint III*). This answered many calls from the industry that the price of home computers had to come down to beat off the invasion of the consoles.

The manic cartoon panic of *Putty* also got a solo airing in the same month, instantly (and rather surprisingly) gaining a substantial amount of critical acclaim along the way. *Amiga Format* awarded it 95 per cent – a rarity indeed. Strangely, one of few games to receive this magical number was *Zool*, also finally released in October, some four months from its scheduled release.

Luckily, Virgin made amends with *Archer Maclean's Pool*. Essentially *Jimmy White's Whirlwind Snooker* with new rules and other extra features, there's no doubting its excellence. Whether owners of *Snooker* will be keen to fork out for *Pool* is a matter of considerable debate, though.

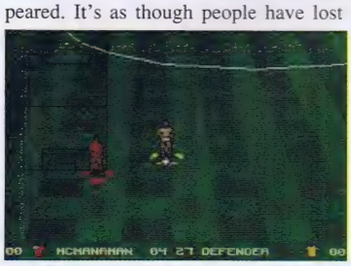
And finally, at the time of writing Future Publishing (the company behind *Amiga Format*, *Amiga Power* and *Amiga Shopper*) is gearing up for the biggest computer exhibition in the UK in the form of The Future Entertainment Show at Earls Court, London. If you read this before you go to the show, be assured it'll blow your mind.

PAUL WALKER
ARC DEVELOPMENTS

"Things have been progressing for us in 1992. The industry doesn't seem to have been hit by recession like others have, and products seem to have been a lot better this year.

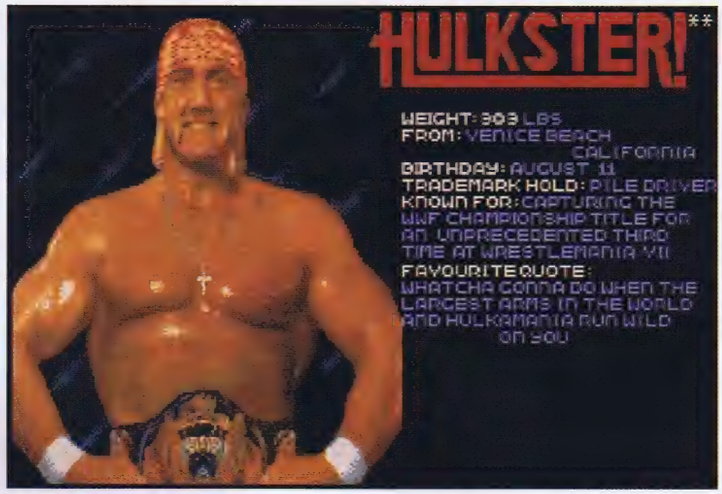
"The Amiga market seems to be going from strength to strength. And of course we're looking forward to the new machines. Commodore has a good foothold, and with the low price A600 it's more accessible than ever (and there are so many good products out there).

"Piracy seems to have almost disappeared. It's as though people have lost all interest in it. Plus there's less mention of it in the press.



Are there too many teams in the division for Arc's *Liverpool* to score?

This one will get everyone huddled round the Amiga on Christmas day.

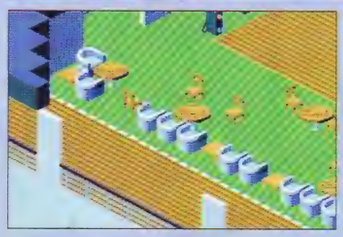


Almost as popular as computer games in 1992 was WWF, so what better idea than to combine the two. Come back Giant Haystacks and Shirley Crabtree, that's what I say.

"Looking at our forthcoming titles, *Nick Faldo's Golf* is looking fantastic. The whole thing just looks so clean. It's possible to dive straight in or approach things more technically, taking your time over shots and choosing the right club. It should definitely be powerful enough to satisfy more hardened golf fans. We're also working on *WWF2* for Ocean. For that one we sat down and spent ages examining real wrestling action. We've tried to make it as true to life as possible, rather than going for a cartoon style. Everything is different from the original *WWF*, it's not a simple reworking. We've gone all out on the animation frames for each character making it all as smooth as possible.

"We've got other things on the boil, including *Bart Vs The World*, and that old board-game favourite, *Scrabble*, for US Gold – which is amazingly powerful. Plus Virgin's *McDonaldland* is one of ours. We have got more products ready, but they are a bit hush hush."

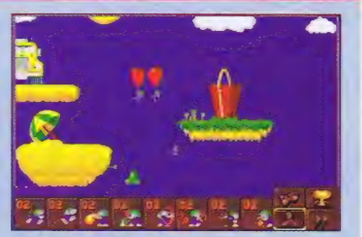
GAMES DIARY – THE MADE-UP BIT



***Sabre Team*: good fun for all the *Laser Squad* strategists out there.**

***Bat2*: an atmospheric cyberspace breed of adventure with arcade interludes.**

Flight sims have been few this year, but *Gunship 2000* is a No 1 contender.



Xmas No 1? *Lemmings 2* should have the competitors shouting 'Oh No!'.

NOVEMBER

Time for a little speculation, because November hasn't actually happened yet (at least, not to me). Here's what I think is likely...

The games market always hots up as Christmas approaches. Thus it is no surprise to find a clutch of minor classics and respectable titles crowding store shelves, hoping to last until they could stand and be counted in the end-of-year chart.

Team 17's *Assassin* slips out early, offering a slick scrolling-platform arcade-adventure thang (*Project X* on foot). Even Mirage releases its (not very *Lemmings*-esque) *Humans*, a puzzle platform game of prehistoric folk. And Virgin gets *Shuttle* on to the launch pad.

***BAT2* from UBI Soft touches down, an atmospheric adventure with some wonderful French touches. Krisalis decides to get into strategy with two 3D exploration and destruction games: *Sabre Team* resembles the ancient (but excellent) *Laser Squad*, while *Shadow Worlds* offers an *Aliens*-style update of the 'Photoscaped' game system used in Domark's *Shadow Lands*. Krisalis is hard at work with the potentially huge *Soccer Kid* and *Arabian Nights*.**

Finally Thalion and Core brings up the vanguard, with the 3D vector motorbike racer *No Second Place* and the cartoon adventure *Curse Of Enchantia* respectively. Thalion's *Lionheart* should be hitting the shelves right about... thwack! ... now, while the programmers at Core are beavering away with the sequel to 1991's acclaimed *Chuck Rock*. Expect results in spring of '93.

DECEMBER

Contenders for the Xmas number 1 include Electronic Arts' conversion of the MegaDrive hit *Road Rash* (the Amiga one improves on the original), MicroProse with the long-delayed *Gunship 2000* flight simulation, and Virgin with the high-flying *Reach For The Skies*. Of the two airborne epics, my money's on *Gunship* (its landscaping technology is truly impressive).

US Gold/Delphine's *Another World* was a surprise hit of '92, so it comes as no surprise to find them using the same graphic system on *Flashback*. Criticisms of *Another World* have been taken into account and a more detailed, more interactive and – importantly – a bigger game results. It may lack a licencee, but it's awash with good ideas.

There won't be any competition for the top chart placing from David Braben's *Frontier*, the sequel to *Elite*. The release date of that big name has been put back until mid-January (that's a hint in publisher Konami's direction by the way – we want *Frontier* and we want it now!).

And what of *Lemmings 2*? The sequel of the year, it'll be interesting to see if DMA can match the original. Certainly the novelty value has worn off, so it'll be down to playability, and that other secret ingredient – hype.

And so there we have it – a year of big names, great games, some failures, but the promise of a great 1993. See you next year.

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Probably the classic Amiga game of all time: original, absorbing, amusing and entertaining, what can we say about Lemmings that hasn't been said already? Well, the man to ask for an original thought on the topic is Dave Jones, who created the original and is now polishing off the sequel. **Mark Ramshaw** asks him how it's going...

Oh no! It's ye

DEVISED BY DAVID Jones and his team at DMA design, *Lemmings* finally reached an appreciative audience back in January 1991. After months of demo disks and witty advertising from publisher Psygnosis, the Amiga games world could finally play the phenomenon in full. The verdict was an almost-universal thumbs-up.

Reasons for its success are hard to pinpoint. The cute characterisation and vulnerability of the lemmings themselves? The unique 'save-'em-up' game concept? Perhaps it was simply a fluke of design that resulted in an utterly addictive puzzle-cum-platform game.

It's likely that all of these element contributed to its success but, as with all classics, it's not really possible to pinpoint exactly why *Lemmings* is so good. It just is.

Lemmings spans 100 screens where the objective is simply to guide the lemmings from an opening to an exit. The route between these two points is more often than not fraught with dangers, including water, chasms, solid walls, forming puzzles which must be solved by giving the lemmings functions: to dig, to build a bridge, to tunnel sideways, to unfurl an umbrella, and so on.

It's all mighty bizarre stuff, that's for sure, and with the timely release of *Lemmings 2 – The Tribes* this Christmas, who better to help us trace the origins and growth of the creatures than David Jones himself? So here he is, talking about *Lemmings* in his own words...

Why lemmings? What's special about suicidal creatures with blue bodies and green hair?

Well, with *Lemmings* the visual side came first of all and then the concept followed on from that. Somebody was playing about with a small animation in *DPaint*. It showed a bunch of very small guys walking to the top of a cliff, then getting blasted by a gun.

I just saw a game in it. And so soon we settled on the idea of trying to save these little guys, who then became these lemming creatures.

How did the bizarre game-playing concept come about?

We decided to control them indirectly to make it easier to use. Most games you control directly; we just though it would be nice to set them a task, then let them go off and do something. It makes it nice to just try things out, building any way, bashing any way, that sort of thing. We wanted to make it possible to manipulate the entire playing area.

Were God sim games along the lines of *Populous* an influence?

Not really, we went our own way. Although *Lemmings* shares the indirect control method with them, we weren't really influenced.

What brought about the idea of having various lemming types?

Ease of programming, to be honest. One of the main criteria was that we thought there was no way to dig upwards. That would have removed the puzzle element from a lot of the levels. Just by being selective like this, and combining them with the level designs, we found the best balance for the game.

Did you expect it to be such a hit?

No, not really. We did expect success with it, but we never anticipated such a level of success. It was fun to do though, and never got boring even towards the end of the project, so obviously we knew we'd got something right.

Dave Jones and DMA, the team that created *Lemmings*, hard at it in their Dundee HQ.

Lemmings

How much pressure was there on you to do a *Lemmings 2* and make it even better?

It was inevitable that there had to be one. But the problem was how to make it different, how to improve it, but make it still identifiably a *Lemmings* game. We tried making the lemmings bigger, making it more of an arcade game, that sort of thing. In the end, though, we decided not to mess with the basic concept too much. We didn't want people to say that it was simply *Lemmings* with extra skills, though.

Are you worried that people may perhaps be disappointed by the new game?

We are worried a little, yes. If you look at the screenshots, then *Lemmings 2* doesn't really look that special, or that different from the first game. But remember that the first *Lemmings* never really looked much on screen shots. It wasn't until people played the game that it became apparent how much fun it was. Once again, we're producing playable demos of a few levels, so people will get a chance to try it out. I think the demo will sell the game.

What advantages does *Lemmings 2* have over the first game?

There's just much more in there – a lot more interactivity with things in the background, and a lot of interaction between the lemmings, which wasn't really a feature of the first game. There are now 64 different lemming skills, with thousands of possibilities for combining them. Completing levels is no longer so limited, there might be hundreds of ways to finish.

Are the lemmings still mortal?

Yes, you can still kill lemmings, but they have to fall a much greater height to get wiped out. They can now be stunned, or knocked out. We've given their injuries more variety!

Do you think the success of the new game will match that of the first?

I would hope so. I don't see why not. It can be a lot more rewarding. Playing the original *Lemmings*, there wasn't much incentive to go back to a level once it was completed. With *Lemmings 2* things aren't so straightforward. Lemmings saved in one level now get taken to the next level, for instance.

We want to get away from the 'you complete a level or you don't'. In *Lemmings 2* everything is so much more variable. Having said that we see *Lemmings 2* complementing the original rather than superceding it. I think people will still want to go back, and try to tackle those harder levels of the original game – and of course *Oh No! More Lemmings*.

Are there down points about *Lemmings 2*?

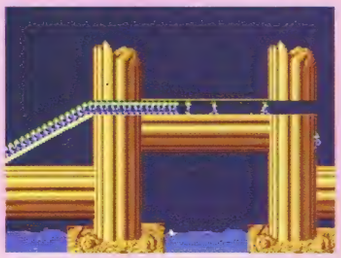
Just one. I can't think of a way to do a two-player version. It's a shame, I'm a fan of head-to-head games. We may produce a completely different version of the game with a two-player option, if only we can figure a way to alter the concept to accommodate it.

Where next for the lemmings, and for DMA?

I've no doubt that there will be a third *Lemmings* product. But it may be some time yet – it was hard enough coming up with ideas for these two. In the meantime we've got *Walker*, *Hired Guns* and a few others on their way.

The playable demo of Lemmings 2 *will be available exclusively on the Coverdisk of the January issue of* ***Amiga Format****, out in December.*

THERE'S ONLY ONE LEMMINGS! (No, there's four...)



LEMMINGS – THE ORIGINAL
The buzz started round the computer industry in autumn 1990, when Psygnosis took the unusual step of circulating a demo disk via computer trade paper *CTW*. A demo on the Coverdisk of ***Amiga Format***, a place in several Amiga bundles and the Game of the Year award followed.

OH NO! MORE LEMMINGS!
The follow-up came in time for Xmas 1991 in the form of a batch of new levels which could be bought either as an add-on for the original or as a stand-alone game. Strangely, it was not quite as enthusiastically received by the magazine reviewers because *Lemmings* had covered that ground.

CHRISTMAS LEMMINGS
If *More Lemmings* lacked originality, this made up for it. Only available on the Coverdisk of the January 1992 issue of ***Amiga Format***, this lovely piece of mischief from Dave Jones saw the lemmings dressed in Santa garb, making their way across a snowscape to e-scape. Great!

LEMMINGS 2 – THE TRIBES
What the people wanted was new graphics and a new twist on the gameplay and they'll get it: with a vengeance. The new game will be out this Xmas and features whole new lemming nations as well as new abilities. Dave Jones promises a new style of play to test your wits.

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Imagine

The 24 bit image above was completely originated on an Amiga computer. The drawings were designed with XCad, the 3D model was created from the 2D drawings and the 24 bit image (1280 x 1024 resolution) was rendered with Imagine - in fact this whole article was put together using Professional Page, XCad and Imagine. These Amiga products would amount to £777 (RRP), compared to AutoCAD, 3D Studio and Ventura on a PC which comes in at £5100 - and that's just for the software! Imagine 2.0 has a retail price of £269.

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Toys for the boys...

Get more out of gaming with gadgets. Be they wacky joysticks, light pistols, screen freezers or even two-player tussles, there's so much fun to be had. Here are the greatest gadgets of the year as recommended by **Mark Ramshaw**...

The Cheetah Bug – just the gadget you need to blast the onslaught of insects in *Apidya* to kingdom come.

IS THAT LAST space invader bugging you? Do you tremble at the sight of that final screen in *Another World*? Are your attempts at being a knight of the sky dogged by a curious attraction to the ground? Fear not! A solution is at hand. What you need is a gadget. Gadgets are fun, sometimes funny, and quite inexpensive. And even though they don't help you improve your scores, they're fun to have around.

But what precisely is a gadget? Let's throw away that dictionary and just say that a gadget is a desirable extra, an oddment, a curio that opens up new vistas of gaming mayhem. We've trawled up some great ways of getting more out of gaming – waggling a wheel, yanking a yoke, programming your own games or peeking into the code of others'. Or even downright cheating. Here's the best and most entertaining gamer's gadgets that we've come across all year...

QUIT BUGGING ME

THE CHEETAH BUG
CHEETAH **£14.99**

Something of a controversial choice this one. People either take to the quirky styling and ergonomics of The Bug straight away and vow to use it for life, or they toss it to one side and grab that trusty Competition Pro. Our advice is to pop into your local joystick supplier, ask for a quick bash on a game (or at least a few seconds gripping the little beggar). If you think that a palm-friendly creature might be for you, then you won't do better than The Bug. And hey, it just looks so cute.

GONNA TAKE YOU HIGHER

THE CHEETAH TURBO FIGHTER
CHEETAH **£49.99**

High flying and fast driving figure in the lives of most games players, particularly with the success of MicroProse games such as *Knights Of The Sky* and *Formula One Grand Prix*. The problem with these games, though, is that no matter how realistic they manage to look, they never seem to feel quite right.

Enter Cheetah's Turbo Fighter – perfect for Thunderbirds-style poses and believable plane and car control. There are other respectable flight sticks on the market, but we chose this one for the inclusion of a desk clamp – essential for when things get a bit physical on that final lap.

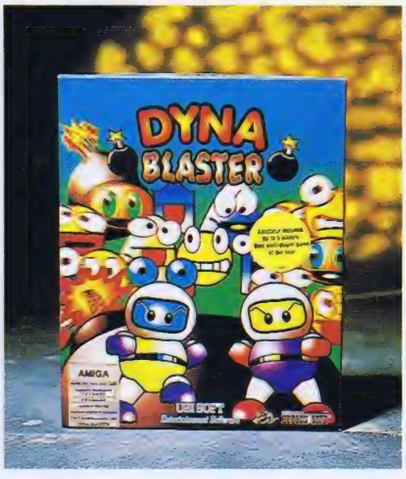
The Cheetah Turbo Fighter – now this is what I call a joystick, very good for those 'Thunderbirds are go'-type poses.

DON'T PLAY WITH YOURSELF

DYNABLASTER
UBI SOFT **£29.99**

There's really no excuse for computer gaming to be a solitary pastime. There's nothing that can bond people more than sitting around the Amiga with a bunch of friends. And that's where *Dynablaster* comes in. Not since *Pacman* has a game been so simple and yet so deliciously compulsive (and in fact if you imagine *Pacman* with the added danger of bombs, you're half way to understanding the wonderfulness of *Dynablaster*). Its real masterstroke, though, is the inclusion of an adaptor which makes it possible for up to five people to play simultaneously.

Forget computerised competition, the real fun lies in ruthlessly thrashing all your friends, then smugly hurling masses of abuse at them. In multi-player mode though, there are very few games which can match *Dynablaster* for sheer fun, and even as a one-player game it ain't half bad.



Two's company and three's an absolute scream when you start playing *Dynablaster*.

GET YOUR MITTS ROUND THESE

CHARACTER STICKS
CHEETAH £12.99 EACH

No it's not Madame Tussauds, but the fun-looking Character Sticks from Cheetah.

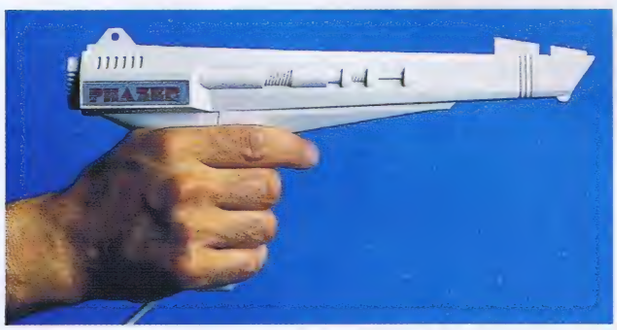
Now get serious! Totally ridiculous and yet utterly fantastic to look at, there's just something strangely appealing about the idea of using Bart to play *The Simpsons* game (or any other game for that matter) that appeals.

Not a *Simpsons* fan? Then for something a little more aesthetically pleasing, how about that Alien joystick, or perhaps The Terminator stick is more your thing, or do you fancy a Batstick? One of the weirdest ideas doing the rounds in the gadgets market, these Character Sticks are nevertheless exactly the kind of thing people love to receive as a present. Gadgets just don't come much sillier, unnecessary, or downright cool.

LIGHT ARMS

LIGHTPHAZER
TROJAN £39.99

If you're looking for fun gadgets, then look no further. Trojan's Lightphazer is the ideal partner to all those *Operation Wolf*-style games, finally giving you the chance to really 'take aim and fire'. With a range of about four feet and a surprising degree of accuracy, Lightphazer makes an excellent change from all that joystick waggling. It even comes with a couple of reasonable games, of which the shooting gallery antics of *The Enforcer* is by far the most fun. The downside to the gun is the lack of software support out there (Ocean's *Space Gun* is one of the few games that supports it), but if it's laugh-a-minute family entertainment you're after, then this certainly does the trick.



Now did you shoot six or did you shoot five? Well with the Trojan Lightphazer it doesn't matter because it doesn't have bullets.

FREEZE!

THE ACTION REPLAY CARTRIDGE III
DATEL £59.99

Still struggling with your favourite games? Then there's only one answer: cheat. Action Replay lets you 'freeze' a game at any point, then hack through the code to make yourself invincible, give yourself extra lives, ammunition or whatever.

OK it's not as pretty as some of the gadgets, but the Action Replay gives you hours of satisfaction.

Of course, it's not quite that simple, and some kind of knowledge of your Amiga comes in handy, but *Amiga Format* prints ready-to use cheats for most games every issue. And don't forget that you get a lot more for your money too. The Action Replay III also includes a simple assembler, screen grabbing utilities and memory saving capabilities. The ultimate hacker's tool, the Action Replay could even encourage you to learn a little more about how those games are put together.

WHEEL MEET AGAIN

NIGEL MANSELL'S FREEWHEEL
SPECTRAVIDEO £29.99

Whatever your choice, *F1* or *Indy 500*, Freewheeling will add a third dimension to your game.

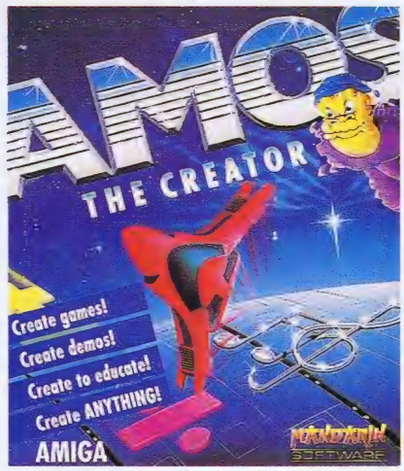
Of course, if you want to tackle those racing games in an even more convincing fashion, then this bizarre gadget is the baby for you. Not actually a joystick in the conventional sense, the Freewheel lacks any kind of base. By holding and turning this detached steering wheel, gravity sensors are tripped, and so it sends standard joystick signals to your beloved Amiga. A little bizarre at first, after a few hours you won't think twice about the disembodied piece of plastic in your hands.

AND HERE'S ONE I MADE EARLIER

AMOS
EUROPRESS SOFTWARE £39.99
SHOOT 'EM UP CONSTRUCTION KIT
GBH £9.99

The last step in a games gadget fan plan has to be to make a game from scratch. Programming is a pretty complex affair though, so it's good that programs such as *AMOS* and *Shoot 'em Up Construction Kit* are available to help out. Of the two, *SEUCK* is the most limited, but then it's also the most accessible and has the benefit of a great new budget price.

As the title suggests, the *SEUCK* offers a headache-free route to producing mightily playable shoot-'em-up games. The results won't win awards, but you could well make a bob or two in the world of PD. *AMOS* offers something closer to real programming, but again guides the user through step by step. It's worth noting that some *AMOS* users have actually had their games published. But even if you just want to mess around and impress your friends, then *AMOS* will ease you into the sometimes complex world of programming smoothly and enjoyably.



"I wanna design my own games." Well now you can, and you don't have to be with the Pru.

Shoot-'em-up Construction Kit is the easiest way to create your very own game.

JUST CHEAT

AMIGA FORMAT'S SCREENPLAY 2 BOOK £9.99

No guide to Amiga gadgets would be complete with Maff Evans' legendary book of tips, cheats and playing guides for practically every big (and not so big) game out there. When the honourable way seems impossible and a cheat is needed, then you need look no further.

COMPANY CONTACTS

CHEETAH, Bedwas Business Park, Bedwas, Gwent NP1 8DU. ☎ 0222 867777
DATEL, Govan Road, Fenton Industrial Estate, Fenton, Stoke on Trent ST4 2RS. ☎ 0782 744707
EUROPRESS, Europa House, Adlington Park, Macclesfield SK10 4NP ☎ 0625 859333
GBH, Carver House, 2-4 Carver Street, Sheffield S1 4FS ☎ 0742 753423
SPECTRAVIDEO, Unit 27, Northfield Industrial Estate, Beresford Ave, Wembley, Middlesex HA0 1NU ☎ 081-900 0024
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"Up the revolution"

Trenton Webb, erstwhile **Amiga Format** ScreenPlay editor, argues that we have to move away from colourful console-style platform games and get behind CD...

FOR THE FIRST time CD technology is available for a major home computer format, the Amiga. The A570 (and A670) are set to usher in a whole new generation of games. Games that are finally freed from the shackles of disk-based data storage. Yet, even now, there is a fifth column working within the Amiga games community to betray this revolution before it starts. These are games that insist on competing with the console 'toys' that are enjoying temporary popularity.

The chief culprit is *Zool*, Gremlin's *Sonic the Hedgehog*-bashing platform romp. *Zool* is a good game, no doubt about it. It's fast, it's slick, it's inventive and, above all, it's a thrilling test of reactions and guess-work. Yet no game has ever split the ***Amiga Format*** team so decisively, so desperately, so that they still fly at each others' throats after hours of debate. *Zool* fans sing its praises fervently; *Zool* bashers don't deride the game, just the path it seems to be leading us down.

In 1992 there has been a complete turnabout in the nature of premier Amiga games. The year kicked off with *Eye of the Beholder 2* and *Monkey Island 2* storming on to the scene. Both sequels boasted stronger gameplay than their parents, better graphics, more involved plots and much more addictive power. These games have sold in thousands and forced more folk to take 'sickies' from work than your average flu bug, as gamers struggle to master epic gaming challenges.

Both games – and their horde of generic clones – stressed huge wodges of data, pixel-perfect mouse control and a long-term play. They have created interactive worlds that grow with you. The more you learn, the more you explore, the more outrageous your solutions, then the more the game gives you back. *Monkey Island* pays you dividends in belly laughs and *EOTB2* has an ever more complex plot. They have made their mark, in terms of playability and quality, nudging Amiga games closer to a hard drive, if not a CD base.

Now, as the year draws to a close, *Zool* appears, swiftly erasing all memories of pirates and paladins. *Zool* should sell by the skip load, if foam-jawed reviewers are anything to go by, but this is not necessarily a good thing. That may sound contrived, but it's true. The same Pavlovian publishing response seems sure to follow the big Z's success as it did *EOTB*. Software publishing is, after all, a commercial enterprise with its fair share of imagination – albeit spread somewhat unevenly. So when somebody else's game sells, other publishers see it as a 'trend' and happily commit their resources to future clones of the current hit.

The games trade, though, is a perilous one, especially in a recession-ravaged world. Huge sums of cash must be sunk into game projects months – even years – before release. Then if the title turns out to be a real dog, or fatally flawed (take Ocean's *Epic* for example), the the return hasn't a hope of recovering the initial investment. So publishers are always on the lookout for trends which, if joined early on, guarantee a profit by virtue of popular hype. These trends are usually spotted at the review stage, when word spreads through the games world of just how good or different a new game really is.

Zool is one such success. With the wild reviews singing its praises from the rooftops, less imaginative publishers are now honour-bound to follow suit. They won't see *Zool* for what it is – a damned fine platformer – but as a 'success' in which they can share if a similar game can be knocked out real quick. The result will be a glut of *Sonic* bashers in the new year, most of which can't hold a candle (or anything else for that matter) to the ninja from the *n*th dimension.

Normally such trends are easily dismissed, with a round of scathing reviews when the imitators finally hit the streets. Yet 1993 will be different. The economic hi-jinks of the last few months and the proliferation of games platforms (as opposed to platform games) means there's less development cash around, so a string of platform games could be all we have to look forward to. When they fail, because they can't top *Zool*, burnt-fingered publishers may conclude that the machine, and not the game, is at fault and move on to formats new.

> "1993 will be different. The economic hi-jinks of the last months and the proliferation of games machines means there's less development cash around, so a string of platform games could be all we have to look forward to..."

Such short-term thinking frustrates the long-term potential of the Amiga. Only by exploring new areas, new game styles and new technologies, such as CDTV, will computer games really prosper. Yet *Zool*, with its cross-format potential, stands a chance of arresting any such development. *Zool* uses existing game styles and, while it uses every lump of solder on the motherboard to maximum effect, it doesn't demand any more. Its primary control system, for example, consists of nine commands: eight directions and one fire-button. Would *Zool* benefit by running from a hard drive? Would it benefit from an accelerator? How could it be improved if the disc was compact and not floppy? It would, if anything, be hampered by such changes.

If this style of game is allowed to dominate the Amiga in 1993, then the machine will ossify and die, like the Spectrum, the CPC, VIC-20, Oric Atmos and Dragon 32s of the past, and the way that the inflexible console platforms will surely perish in the future.

The Amiga has a real chance at becoming the first home computer to evolve its way out of this creeping technical obsolescence. It has the potential to become a massively popular CD-driven machine. This medium surely has to be the way of the future, but it will only happen if the industry that has grown rich from publishing Amiga games supports it. They must take the plunge and look beyond the end of the next financial year; seek to make trends, not follow them.

Some companies, such as LucasArts, have enough courage to commit themselves, adapting old games to work with new systems. LucasArts' purpose, though, is not a quick buck for a re-hashed game, but to see what improvements it can make within an existing gaming environment. The reward is to gain a knowledge of CD technology that should ensure its own games make the most of the A570 and friends.

We should celebrate *Zool* for what it is, a fine game, and because it beats the *Sonic*s and *Mario*s of this world. *Zool* has reached the summit of current Amiga technology. But both software publishers and purchasers now have a duty to explore the new horizons visible from this lofty perch. The narrow-minded will be happy to sit and admire the view; the cowardly will run down the mountainside to climb the console range. The brave, though, will welcome new technologies and attempt to scale new heights. And if you think the view's good from where we are now, imagine what it will be like when the brave reach the summit.

Gary Whiteley casts an experienced eye over the Amiga graphics scene and sees a picture of health, provided the Amiga's new chip set lives up to its promise...

Face up to a bright future

The gorgeous, if slightly unfinished-looking, Marilyn graced the cover of *Amiga Format* 35 – an issue dedicated to getting those artistic juices flowing. And if Gary's observations on the future of Amiga graphics are anything to go by, next year looks particularly juicy.

FALLING PRICES AND major innovations in both soft and hardware seem to have been the flavour of the last 12 months for the Amiga graphics enthusiast. Despite the recession, we've seen plenty of new and exciting kit coming out and, perhaps because of the recession, prices have come a-tumbling down.

Interestingly, users in the UK have borne witness to an abundance of high-end graphics cards hitting the marketplace – the thrilling DCTV, with its paint software, digitiser and animation playback capabilities, and French company Archos' budget AVideo 12 and 24 cards. A very promising development when you remember that AVideo24 includes a version of the previously mega-priced, but rather good, *TVPaint*.

In June Progressive Peripherals wowed the Amiga Shopper Show crowd with the Rambrant graphics card, but a devastating fire at the company's headquarters in Colorado meant that production was seriously delayed. GVP announced both the EGS (Enhanced Graphics) and ADDI systems, though they too were more paperware than reality and, while the Impact Vision 24 shipped in quantity, it was let down by a poor-quality software bundle. In the last quarter of the year, the much vaunted OpalVision hit the streets and those of us fortunate enough to be able to play with one were immediately smitten. So a good year for graphics cards, at least.

On the software side, Electronic Arts made improvements to its evergreen *Deluxe Paint IV* program, though *DCTV Paint* was an early contender for becoming best-featured paint program of the year, even though it needs DCTV hardware to run. ASDG and BlackBelt both unleashed bigger and better image processing and manipulation programs. We saw new versions of Impulse's *Imagine* and Activa's *Real 3D*, as well as several collections of textures (both bitmapped and algorithmic) for surface mapping onto 3D objects. One of the highlights was when US firm Scala finally got its long-awaited *MM200* multimedia package out of the door. Another was when *OpalPaint* (the OpalVision paint program) effectively closed down *DCTV Paint*'s challenge for top paint banana.

> "*Brilliance*, Digital Creation's stand-alone version of *DCTV Paint*, promises to be a real blockbuster in 1993, especially as it will support the new AGA graphics modes" Ben Vost, technical manager, MicroPACE UK

With KickStart/Workbench 2.04 upgrades finally becoming available in big numbers, the conversion and release of loads of public domain Adobe fonts in an Amiga-accessible Compugraphic format meant that Amiga users now have affordable access to a huge range of typefaces. The best thing is that any program that can use Outline fonts will be able to use any of these PD fonts – once they've been converted with WB2's *Fountain* program.

Not everyone wants (or is able) to produce graphics from scratch, so there are times when a helping hand is welcomed. Grabbing a video still or scanning in a photograph are quick and easy ways of making a good impression. For price and quality, the best digitiser I've seen this year has to be MacroSystem's VLab. JCL pitched in with a new ColorPic, while a new Rombo digitiser is imminent. I'm also very impressed with a German digitiser, Klaus Tute's DigiTiger, which is the fastest slow-scan (not real-time) digitiser I've seen.

A more esoteric phenomenon is the widespread introduction of JPEG compression routines which make it possible to store an image at a fraction of its uncompressed size with minimal losses after decompression. The routines, dreamt up by the Joint Picture Expert Group, offer typical space savings of as much as 80 per cent. BlackBelt claimed to be the first to include JPEG in its *ImageMaster* software, but the technique has since become a 'must-have' in many graphics products.

The one thing we'd all like is a packed-to-the-gills, fully supercharged, mega-fast Amiga for £50. I think I can safely predict that this won't happen in 1993, though you may like to see Damien's predictions on this score on page 28. What does look likely is that the advent of the new double-A chip set-based Amigas will attract serious attention from graphics and desktop video users – professionals and enthu-

siasts alike – which can only be a good thing. With its new HAM8 mode (for 256,000 on-screen colours), improved screen resolutions and animation support, many of the ingredients for the future of Amiga graphics are already in place and, if there is a fair Dollar to Pound price translation, then prospective Mac and PC users may just be tempted.

The fact that Commodore now seems to be opening up to criticism and is also becoming more vocal in its press announcements seems to bode well for the Amiga in general, and graphics in particular. But this is not the entire story…

The computer is only part of the larger graphics equation. The most popular Amigas (the 500s and 600s) and the larger 1500/2000 machines may all require various expansions – to add more RAM, bigger storage devices, SCSI scanners, faster processors, graphics display devices – and, of course, excellent software. This is where the future of the Amiga has so often been secured in the past, and it will continue to be so in the foreseeable future. Without the likes of GVP, ASDG, Electronic Arts, Scala, BlackBelt, Digital

Continued overleaf

SOFT OPTIONS – THE BEST OF '92

DELUXE PAINT IV
ELECTRONIC ARTS **£89.99**

DCTV PAINT
DIGITAL CREATIONS **£499 with DCTV**

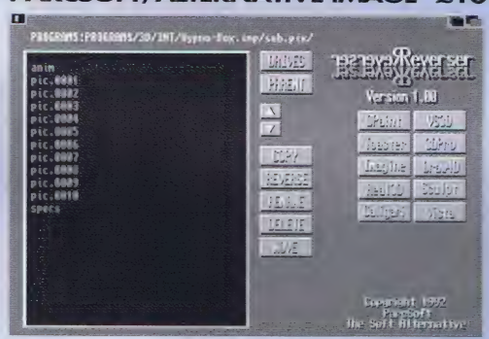
Bundled with Digital Creation's DCTV hardware, *DCTV Paint* gives Electronic Art's *DPaint* a real run for its money.

Harking back to late September last year, we've that sterling paint program *Deluxe Paint IV*. Unless you've just been released from cryogenic suspension, there's nothing new to tell you, so I'll just say that it is the latest in a line of popular paint and 2D animation programs – if you flick to page 133 you'll see what the ***Amiga Format*** team and all you readers think of it.

We also *have* to mention *DCTV Paint*, as supplied with Digital Creation's DCTV display hardware. Although it can only be bought with DCTV it really is an excellent program, providing a treasure trove of functions which remain unsurpassed (except by the true 24-bit paint programs).

Speaking of 24-bit, my money (if I had enough of it) would go on *OpalPaint*, the software bundled with Opal Technology's OpalVision card. It has a lot of innovative features – a range of artist's tools, paper types, multiple screens, fast response, thumbnails, backdrops for Amiga graphics and so on. It should prove extremely popular. As a top-end graphics product OpalVision has a lot of potential, but being so new it remains to be seen how it will be supported by both developers and the graphics fraternity.

REVERSER
PARCSOFT/ALTERNATIVE IMAGE **£10**



A program that will make the animator's life that much easier, *Reverser* renames hundreds of files in a trice.

A little lifesaver for animators who have to pass large sequences of image files back and forth between different programs. There isn't a standard file name format for adding numbers to the end of each frame of a sequence, so *Reverser* can re-name a batch of related files in one go – which is a lot better than the old 're-name one-at-a-time CLI/*SID*/*Directory Opus*' method. Current file types includes *DPaint*, Video Toaster, *Imagine*, *Real 3D*, *Caligari*, *VideoScape*, *3D Professional*, *Draw 4D*, *Sculpt* and *Vista* numbering systems. Consider *Reverser* next time you've got 300 *Imagine* frames that need renumbering into *DPaint*.

IMAGINE 2.0
IMPULSE/ALTERNATIVE IMAGE **£269**

REAL 3D
ACTIVA INTERNATIONAL **£280**

Impulse's *Imagine* offers plenty for the aspiring 3D modeller, but suffers from quirky handling.

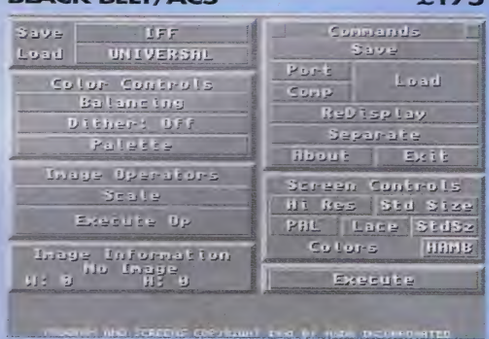
The choice of 3D modelling software is quite a personal thing, even though it is swayed by both cost and features. My favourite is Impulse's *Imagine 2*, though others swear by Activa's *Real 3D* (latest version is 1.4.2). Both can produce excellent ray-traced results, either in 24-bit or other Amiga and proprietary formats.

Imagine has loads of good features – extensive modelling functions, build cycling objects, manipulate textures and surfaces, make fog, make objects as light sources and animate the results either as series of still images or compiled into Amiga-playable animations. But it is tricky to get to grips with and can be quirky.

I find *Real 3D* a little too 'simplistic' – which is probably why it finds favour with so many 3D users. Certainly, *Real 3D* makes such things as image mapping extremely easy in comparison with *Imagine*, and there's no doubt that it can produce absolutely stunning results, but it's just not my cup of tea.

ART DEPARTMENT PROFESSIONAL 2
ASDG/HB MARKETING **£211.50**

IMAGEMASTER
BLACK BELT/ACS **£175**



ASDG's *Art Department Pro* – very powerful, heavy on memory, but an easy program to use.

Another close-run thing. ASDG's *Art Department* was the leader, and it was subsequently upgraded to *Art Department Pro*. Then, shortly after, BlackBelt's *ImageMaster* came into contention. While both programs can perform a wide range of image processing functions, there are enough important differences between them to justify buying both.

One big draw of *ImageMaster* is its morphing function, which can transform one image into another over a range of frames. Of the two, *ADPro* is the easiest to use, though it eats memory. *ImageMaster* needs lots of memory too – 4Mb is the sensible minimum.

Creations, and all the other manufacturers and developers too numerous to name, the Amiga would probably have fizzled out long ago.

By providing the marvellous add-ons and clever software that keep so many of us enthralled with the Amiga, despite the machine's many frustrating eccentricities, it is the third-party manufacturers that have contributed enormously to its success. I see little reason for this to change as long as the Amiga itself evolves to meet the needs of its public – whether the introduction of the A600 and A4000 are appropriate to those needs, only time will tell.

The next 12 months will likely continue at the same frantic pace as the last. One promising development is the imminent release of *Brilliance*, a stand-alone paint program from the maker of DCTV, which promises full double-A chip support for almost photo-realistic graphics. I wonder if there will be a *Deluxe Paint V* as well.

We should also see the full release of the OpalVision expansions (more of which in the Video section on page 94), an external version of OpalVision for the A500 and, no doubt, lots more newer, cheaper, bigger, better graphics cards and software. With the ongoing developments of faster processors and memory chips we'll continue to see many aspects of high-end graphics production systems becoming available on the Amiga.

Applications such as image morphing (for those *Terminator* 2-style effects) are becoming almost commonplace, what with BlackBelt's *ImageMaster*, ASDG's Morph Plus and GVP's new *CineMorph* products all promising 'professional quality'.

Integration of hardware and software will doubtless continue, with one party's hardware offering support for another's software. If the much-touted but still very theoretical SAGE (Standard Amiga Graphics Extension) concept takes off, then a standard might emerge based around the tricksy TI34020 graphics chip, and that could go on to great things.

> "Image morphing is not just a fad, but one of a number of serious video graphics applications which are being brought to the Amiga. I think it will become a classic graphics technique"
> Martin Lowe, Amiga Centre Scotland

GVP will no doubt continue to build what are effectively sub-chassis expansion devices on which more GVP products will hang – a prime example being the EGS card which will require a GVP Combo accelerator card. For 3D buffs there are a few more treats in store. A new, third version of Impulse's very popular *Imagine* program is due out any day, and there will be a bunch of nice new features on board. 1993 will also see the release of Activa's *Reality* software which, by all accounts, will be a vast improvement on the popular *Real 3D* program – though reputedly with a price tag to match. The word is that *Reality* will burn holes in the opposition, but how many times have you heard that?

Perhaps we'll see NewTek's *Lightwave* separated from the Video Toaster as well. But what would be really great would be the introduction of an affordable 3D digitiser to make object modelling that much easier.

Graphics will continue to improve on the Amiga when a DSP (Digital Signal Processor) chip is incorporated. The advantage of such a chip is that it comes with built-in libraries for graphics, sound, modem and other applications and works in parallel with the Amiga's own processor so there is no slowing of operations.

By writing software that calls these libraries directly, graphics and 3D applications, as well as many others, could benefit from huge speed increases and productivity would be immensely improved. Unfortunately, it may be some time (if ever) before such DSP chips will be available for retro-fitting' to older Amigas.

There is also talk of re-targetable graphics becoming a standard feature in a future version

SOLID VALUE – THE HARDEST WARE OF '92

FLICKER FREE VIDEO 2

ICD/SILICA **£229.95**

Flicker Free Video 2 from ICD, masters of the miniature, is the only way of getting steady Interlace on an A500.

ICD is renowned for its amazing hardware gadgetry, for the simple reason that it does something no other company does – it specialises in miniature extras that will fit inside an A500 and yet are still of the finest quality. ICD can do you a 120Mb hard drive and 8Mb of RAM, all kept neatly within the confines of an A500's case.

Which means that ICD can do something for the graphics enthusiast that no-one else can do – fit you up with a flicker fixer!

As any graphics fan would know, if you want to work in detail you have to work in high resolution and that means switching to Interlace mode. Interlace is also absolutely vital for video work. But it's such a pain in the eyes! It flickers like mad, which is no way to work.

This is the perfect way to solve Interlace flicker and now comes with various enhancements, including the capacity to have an 'off' switch fitted for use with normal resolutions. It's just the job!

OPALVISION

OPAL TECHNOLOGY/ZCL **£762.58**

***OpalPaint*, bundled with the OpalVision board offers much for the 24-bit-bashing buff.**

From all the pre-release gossip I heard, I suspected the 24-bit OpalVision card was going to turn out to be more hype than hip. Well, I'm glad that I was proved wrong; I was fair knocked out by both the quality and depth of the paint and display features of the Mother Board – the first (and main) part of the OpalVision suite. OK, it needs a pretty well-stuffed Amiga to get the best out of it – like at least 1Mb Chip RAM, and maybe 4Mb (or more) FAST RAM. A hard disk is obligatory too, if you want to store the massive files that 24-bit images produce.

With loads of painting tools, image processing techniques, plenty of neat tricks up its sleeve and a few rough edges, *OpalPaint* will certainly keep the fires burning in the 24-bit hearths for a good while.

Expect to see an external version for A500/A600 owners in the near future, and lots of developer support. US firm Scala is already working on an *MM200* EX to tie-in with OpalVision, so great things could be in store for the future.

EPSON GT-6000

EPSON/HB MARKETING **£1,175**

A high-price scanner for professional applications – the Epson GT-6000 can't be beaten.

The high end of scanning is covered by two items: the small Sharp JX-100 and the Epson GT-6000. One problem: the Sharp, although good and cheaper than any other sort of flatbed colour scanner, is not just last year's model, but the previous year's.

The GT-6000 is an expensive alternative, but if you really need scans to 24-bit quality you're in a very expensive line of business anyway, namely the professional colour DTP market.

The Epson is not new to the field of scanning, but the hot thing is that ASDG, the champion of 24-bit Amiga scanning, has generated a driver for this high-quality chunk of gear in the form of a bolt-on for their *Art Department Professional* software. A stand-alone version is included with the scanner to get you going, but it lacks all the other functions of *ADPro*.

This software really makes the GT-6000 sing along, although be warned that you can't run it on a base-level Amiga because the file sizes of A4 24-bit images demand serious memory.

of AmigaDOS (Workbench 4, perhaps!) which would mean that software and hardware that conform to DOS requirements will be able to display and/or manipulate each other's graphic outputs – for instance, a 3D rendering program could output a 24-bit image to any display device capable of displaying that image.

But all that is way off in the distant future, which is why another standard, called GRAFEXA, has been proposed by Index Information Systems. The idea is to produce a system of integration which can be adopted by present hardware and software manufacturers and will lead to compatibility between graphics products which include the GRAFEXA library and low-level hardware interface. The advantage of such a system is that the plethora of currently non-communicating graphics hardware and software will become integrated into a much more accessible environment, giving buyers more confidence in new products. GRAFEXA can operate without a TI34020 graphics chip (unlike SAGE), though it will probably be faster if one is present.

Amiga graphics and video production will continue to become increasingly entwined. Multimedia and CD developments will continue to blur the boundaries between previously distinct media – blending DTP, photography, video, graphics and animation into new forms. It could be hard to keep track of all the possibilities, unless you keep your eye on future issues of *Amiga Format*.

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SILICA
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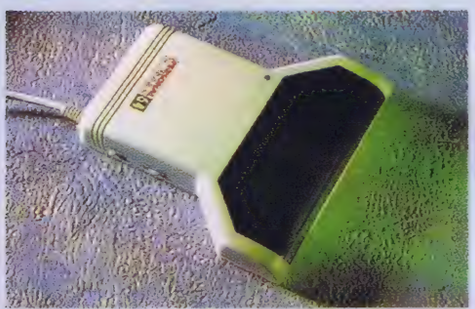
☎ 081-309 1111

ZCL via CALCULUS
Telephone for details of local supplier
☎ 0543 251275

POWERSCAN PRO 2

POWER COMPUTING £99



Superb full greyscale images and powerful software support put the PowerScan ahead of the rest.

The PowerScan is a powerful hand scanner which takes full advantage of the facilities of the Amiga, including the new screen resolutions of Workbench 2. The scans obtained can be black and white or, better yet, full greyscale images reproduced as dithered 16-shade IFF ILBM bitmaps. These are so much better-looking on the page than those silly two-colour dithery things we're used to from hand scanners. Most scanners these days feature some kind of grey scale effect, it's true, but the PowerScan offers the best.

The difference is in the software. Once an image has been scanned in, in a dithered format, it is re-scanned by the software and each area of dots is translated into a shade of grey corresponding to its apparent shade on the screen. The only thing that comes close to the PowerScan software is *Touch-Up* by Migraph which comes with, among other things, the Naksha hand scanner. The Power software is excellent and its resemblance to *DPaint* helps!

CITIZEN 240C

CITIZEN £435

The Citizen 240C offers exceptional colour clarity and excellent mono output to boot.

Colour dot matrix printers have always been a bit of a let-down. The blurry images you get from them often fail to do justice to the original artwork. And when the colours bleed, you've got a mess on your hands. But things might be changing for the better.

The Citizen 240C (which is ousting the old Swift range of 9- and 24-pin printers in the colour stakes) gives great results, especially when using the special Citizen Print Manager software. This enables you to print colour images of very high clarity, not the muddy and blurry images you expect, and with reduced amounts of banding.

Aside from being an excellent colour printer, the 240C is also very good at black-and-white output, complete with eight NLQ and two scalable fonts – the first time such technology has been used in a printer of this kind. A new driver is required for the new functions of the printer before it can be used with the Amiga, although users of such programs as Protext will be able to configure their own drivers.

EPSON EPL-4000

EPSON/POWER COMPUTING £639

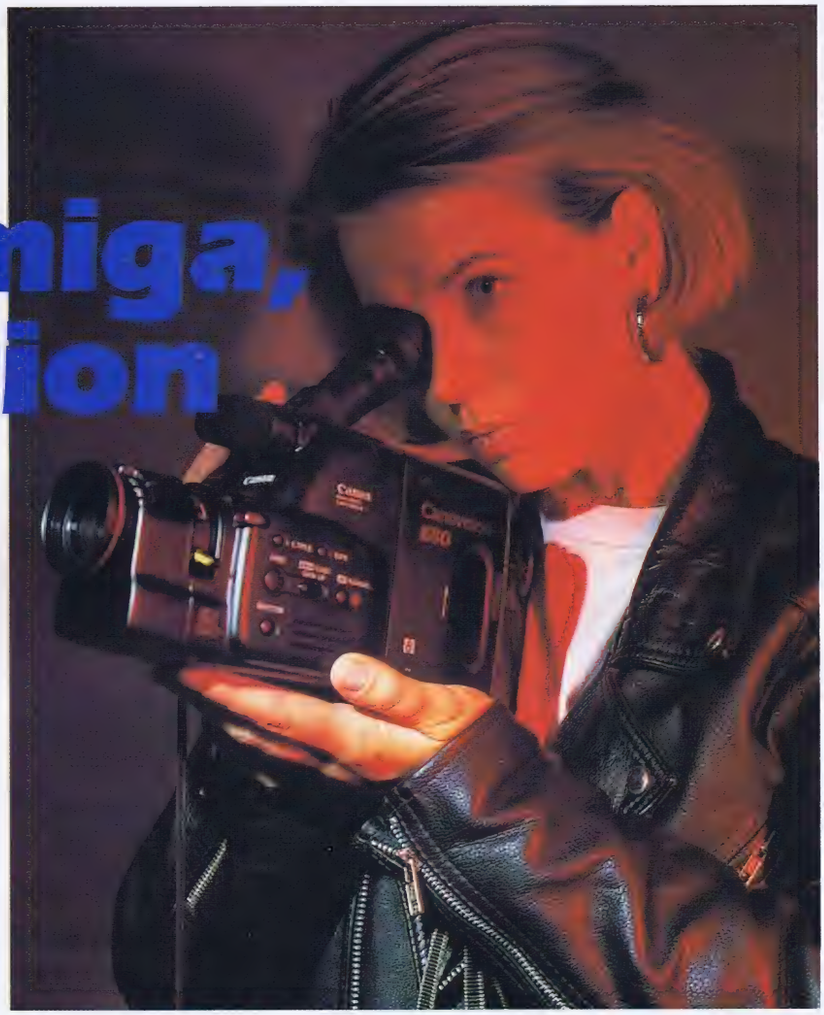
The Epson EPL-4000 is definitely ahead in the definition stakes, but needs extra memory for full PostScript spec.

This is a great HP LaserJet clone and, although it is happiest in this mode, it also emulates both Epson X and IBM Proprinters (like just about every other printer on the planet.) This is the top end, the 'jet set'. Gone are the low-definition days of your dot matrix and lowly inkjet. Now you have high definition dots and superb crisp fonts – though you only get two on the printer when you buy it, and if you add PostScript you will need to add quite a few more fonts to bring it up to the standard Postscript 35.

By plugging in a PostScript cartridge you can upgrade the machine to full PostScript spec, although you'll have to add more memory too. PostScript printers are more like computers in their own right, and printing complex graphics can require large amounts of printer memory. An alternative would be Adrian Aylward's *Post* program because it is happier with LaserJets than almost any other type of printer, but you still need a pile of memory to make it work successfully.

Amateur and professional video users are turning to the Amiga as a cheap and powerful alternative. **Gary Whiteley** on 1992's releases and what 1993 promises.

Lights, Amiga, video, action



The next most useful piece of hardware for video production after your camcorder is your Amiga. And 1993 should see the Amiga continue to take the video world by storm.

IF THERE IS anything which characterises 1992 and Amiga video it must be the abundance of rumours which surfaced during the year, some of which spread far and wide. Some said that the Amiga was dead. Others that there were several secret Amigas in the pipeline. There were continual stories speculating that a PAL Video Toaster was about to be released. And there was even a rumour that Elvis was alive and running Commodore – oops, wrong publication! Of course not all of these stories have proved true – yet! – but Amiga video goes from strength to strength.

The demarcation between video and graphics on the Amiga became far more blurred over the past year. Hardware which would previously have been regarded as pure video equipment, such as vision mixers, chroma keyers, time base correctors and digital video effects generators have all been produced in forms which integrate with, or even install inside, the Amiga. It's now possible to equip an Amiga with enough hardware and software to make it a full-spec, broadcast-quality graphics and animation station – though real-time, full broadcast quality digital video effects are still some way off.

It's not only professional video producers who have been well catered for. Only a fool would overlook such a lucrative market, and there were a number of new products that were aimed specifically at the semi-professional, amateur or home-video enthusiast, including the first budget chroma keyer – RocTec's RocKey – as well as continuing support for well-established products.

Products like Digital Creation's DCTV, GVP's Impact Vision 24, Archos' AVideo24, Progressive Peripherals' Video Blender and Rambrant devices, Opal Technology's OpalVision and, of course, NewTek's Video Toaster all kept the interest in Amiga video bubbling strongly, while earlier hardware such as the Harlequin card was improved and supported further.

Video being a somewhat specialised area, there certainly wasn't an overabundance of video production software launched in 1992, though there were some excellent releases, across a range of applications. Probably the most important new software was Scala's *MM200*, a multimedia package aimed at high-quality, professional desk top video productions. Other notable releases were ZVP's *VideoStudio 3* and Zen's *Prompter* teleprompting software.

We've seen JPEG compression available as software for some time now, and it has just begun to appear in hardware form in the United States, where Digital Micronics has recently released its *EditMaster* system. *JPEG* is a compression format which can be used to drastically reduce the size of image files, while sacrificing relatively little in the way of detail.

> "The Amiga has continued to be used in television and film – its credits include Minder, Taggart, Running Late and Lloyds Bank commercials as well as Gamesmaster and Catchword"

The advantage of using JPEG hardware is that extremely fast compression (and decompression) can be performed – much faster than using software and effectively in real time when the right hardware is used – which means that fully fledged offline editing systems could appear on the Amiga which will rival those already available on Mac, PC and other platforms. Initial prices will be relatively high (*EditMaster* is around $2,500), as the technology is still expensive, and high-speed, high-cost, mass storage devices are required to save the vast amount of data generated. However, the time savings when grabbing frame by frame from video can be enormous, turning hours into minutes, so *EditMaster* is likely to become popular with CDTV producers who need to transfer video to CD.

The Amiga throughout 1992 has continued to be used in many television, film and video productions during 1992. Its TV credits include *Minder*, *Taggart*, *Running Late*, Lloyds Bank commercials and many more.

Many video companies are realising the benefits of using Amigas for pop videos, titling, animation and lots more. One example of the Amiga's success has been the *Dr Devious VR Dance In Cyberspace* video, which has sold around 10,000 tapes. Real Time Graphics produced Amiga graphics for another series of *GamesMaster* while BBC 2's *CatchWord* used Amigas to generate sound and animated graphics.

The continuing economic difficulties which are severely affecting the television, video and advertising industries could well be turned in to an advantage for the Amiga if Commodore can persuade producers that they can buy a well-equipped Amiga 3000 or 4000, put it to good use for titling, graphics and animation and still show a return on their investment. With several major animation companies (including Disney) and a number of broadcast

production companies regularly using Amigas there should be no excuse (excepting ignorance) for not taking them seriously.

Now that JPEG hardware has appeared, how long before MPEG (motion picture, as opposed to JPEG's still-image format) compression and decompression systems become commercially viable at the Amiga level? Chips are being produced right now, but until the costs drop substantially we won't see full motion video (FMV) on either CDTV or its rival, CD-i. Expect MPEG to be fitted to Amigas within two years, at the outside.

However, we should see the introduction of the Advanced Video Mode (AVM) card for CDTV rather sooner. Based on DCTV, though without its digitising capability, this slot-in card should go a long way to providing more realistic video replay for CDTV, something which I think is sorely lacking at the moment. The bad news is that it won't be selling for the £50 which was being rumoured by some, though producer Digital Creations may well bundle the *DCTV Paint* program with it.

It's worth speculating at this point that since a new generation of CDTV machines will undoubtedly contain the AGA chip set there was probably no need for Commodore itself to continue to actively pursue AVM – but at least current CDTV owners will be able to improve their output, even if AVM doesn't get too much support from third parties.

As I mentioned at the start of the article, rumours of a PAL Video Toaster have been rife. In the US this is one product which helps to keep the Amiga afloat, though NewTek has always been a bit shy of speaking about PAL developments beyond general, and inconclusive, mutterings. But I did hear that Tim Jenison, NewTek supremo and one of the Toaster's creators, mentioned at the recent World Of Amiga show in Pasadena that they were preparing PAL chips for the Toaster, but that it 'wouldn't be ready for "another 18 months". At least they're consistent – it's always 18 months away!

The trouble for NewTek may well be that it is going to be too late hitting the PAL market. If the OpalVision lives up to its promise of providing the Roaster chip, genlock and framegrabber modules then I would think that unless the PAL Toaster is really something special (and ready for a fairly sharpish release) it will almost certainly miss the boat. I'm also somewhat surprised that we've seen no contenders from the UK or Germany either, though I reckon that OpalVision is just a taste of things to come.

For those who don't yet know, the expansion modules for OpalVision are intended to provide plug-in hardware which will do real time video effects, frame grabbing, genlocking of both S-Video and composite video signals, flips, tumbles, wipes and the like, as well as adding deinterlacing to produce flickerless video output on multisync monitors.

In fact, with the current advances in integrated circuits which enable them to perform video functions previously done by much larger devices, we should see expansion

Continued overleaf

VIDEO HARDWARE 1992

DCTV

DIGITAL CREATIONS
SILICA **£499**

The advantage of DCTV is the inclusion of a digitise function in the software that lets you capture images from video.

DCTV can display graphics and animations in several million colours by using special image formats. These images can be displayed by any Amiga software which can show IFF images so long as the DCTV is connected. Because the files are small, compared to IFF24 files, they load quickly and require less storage space.

Included with DCTV is a great paint program and a digitising facility which can capture a still video image in a matter of seconds. Images can also be saved in 24-bit or JPEG formats for storage or transfer to other software. Sadly, despite its unique functions, DCTV falls down slightly with its video output – which is a slightly out-of-spec composite signal. But weighed against the price and facilities offered, DCTV is great for low-budget, high-class graphics and animations.

ROCKEY

ROCTEC ELECTRONICS
HB MARKETING **£299**

Although RocKey is aimed at the amateur video enthusiast, you can still create some unique effects on your home videos.

The RocKey is the first budget chroma keyer for the Amiga. OK, it needs connecting to a genlock, and it's aimed at the home-video enthusiast, but if it's VHS you're working with it might be just what you need.

As well as chroma keying (ie replacing a colour in a video picture with another image) it can do luma keying (keying based on brightness, rather than colour) and some unique effects which are a result of the keyer/genlock combination.

If care is taken with the quality of the video signal then reasonable results can be obtained, though they aren't perfect. If you want to put your actors in another world but haven't got the budget you could do worse than video them on a blue background and use a RocKey to superimpose them over an animation.

VIDEO SOFTWARE 1992

SCALA

SCALA via SILICA **£464**

You can get scaled down versions of *Scala MM200* in the form of *Scala VS113* (Video Studio) and *HT100* (Titling).

The original *Scala* has exploded into a wide-ranging titling and presentation package. It retains the features which made it so popular but it has been markedly improved and expanded into a professional product.

The new *Scala* EX modules are a series of control programs. Six EXs are provided which can control MIDI equipment, CDTV, LaserDisc players, Canon's ION and VideoComp's DVE-10 genlock/vision mixer, so you can play CD sound while showing a presentation – which can include animations, text and normal graphics – integrate LaserDisc sequences, Canon Ion stills and control a genlock for wiping and placing graphics over video. If you want professional presentation, get an Amiga and *Scala MM200*. Just make sure that you also get a hard drive and at least 3Mb of memory.

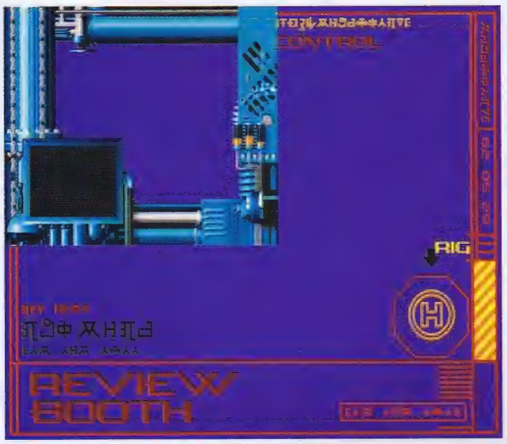
VIDEOSTUDIO 3

ZVP **£149**

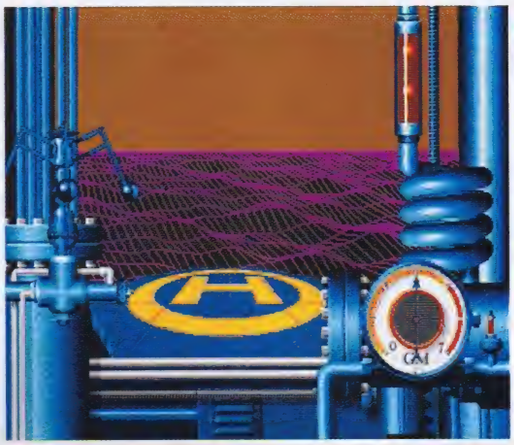
ZVP's *VideoStudio 3* features high-resolution titling, graphics, wipes test patterns, clocks and loads of special effects.

ZVP launched a new version of *VideoStudio* aimed at the lower end of the video production market – it's advertised directly at video enthusiasts via video magazines, rather than at Amiga owners. Though not a blockbuster, it's the only new commercial titling package released this year, which is how it gets to be here.

While *VideoStudio3* packs a lot of features, and runs OK, there are a lot of rough edges in it. I was told that this is because compromises had to be made to accommodate low-memory machines, so who am I to argue. But with tons of test patterns, quick text entry, a few nice fonts, lots of special effects and basic wipe patterns, VT3 is probably all that many video makers require. It's quirky, but it gets the job done – in its own unique way.



Real Time Graphics is the company behind the impressive graphics that has made *Gamesmaster* so visually stunning...



... and what better TV programme to make the most out of the Amiga's graphics and titling capabilities?

devices which will be revolutionary even by present standards. We're already seeing the Sony digital video chips being incorporated into frame grabbers, and the Texas 34020 graphics chips have been around for some time now and are being used in high-end graphics cards. So how long will it be before one card contains all the vision mixing, time base correction, graphics display, video processing, standards conversion and auxiliary features needed to drive a fully digital video studio on the desktop?

Speaking of high-end applications, GVP will soon be launching a professional graphics-and-video manipulation system which appears to be a Quantel Harry-type set up. It will be based around an accelerated Amiga (50MHz 68030 with 16Mb 32-bit RAM), 420Mb hard drive and 1Gigabyte removable optical drive, Impact Vision 24, video device controller and software which includes functions for compositing, filtering, matte generation and rotoscoping. It won't do real-time effects, instead the effects are based on manipulating an image frame by frame after it has been grabbed from its source and then saving it on to video tape again, but even so, when compared to the cost of a Harry system (they can cost in excess of £250,000), ADDI's approximate cost of a mere £12,000 doesn't seem too bad by comparison. It's simply a case of less money, more time.

At the time of writing Progressive Peripheral's Rambrant card still hasn't arrived on the market, likewise its Video Blender. Although a small number of Blenders were on sale at the *Amiga Shopper* Show, they seem to be in short supply – which is curious judging by the excellent comments that have been made about it. Hopefully we can expect to see both products sooner, rather than later.

Another promising video/graphics product which has been in the pipeline for some time is G2 Systems' Image Engine card, which will carry the same TI34020 graphics chip as the Rambrant and other top-price cards. Details are scarce at the moment, but testing is almost complete and production should start soon. Expect to see a product which will have 24-bit graphics with up to 1,024x1,024 pixels, composite RGB and Y/C video connections, on-board frame grabbing, fully fledged graphics capabilities, video keying and a load of other features. Then start saving up, because, like the Rambrant, this British baby won't be cheap. But it will be professional – and that's important because Amigas are still too widely regarded as just games machines, despite the best efforts of many of us to persuade the right people otherwise.

> "As the major television companies increasingly turn to corporate and business programming to bolster their revenues, we'll doubtless see the Amiga being used for cost-effective, quality video applications"
> Barry Thurston, Scala UK

Further exciting announcements are expected from Scala, who will be releasing a wide range of new EX modules for its *Scala MM* product. This will enable *Scala* to control a wide range of video decks, including the Panasonic MII broadcast decks (though oddly Sony VTRs aren't included in immediate plans), Impact Vision 24, OpalVision and Harlequin graphics cards, several genlocks including the Magni and G2's VideoCentres. Video Toaster and VLan EXs are also planned, as is one to interface with the Phantom SMPTE time code unit. With all these EXs forthcoming, I wouldn't be surprised if we soon saw a full-blown video edit controller either built into *Scala*, or at least released to compliment it. It seems like an obvious step once it has become possible to control such a range of multimedia devices.

There's also a new version of Alternative Image's popular *Big Alternative Scroller* budget titling software in production. Early accounts of it sound interesting, to say the least, with many more features the the original *BAS* offered – which I'd expect, since the original is getting on for two years old.

What advantages will the new Double-A chips bring for video users? Better resolutions, more colours and higher frequencies for less flicker, that's what. With the new HAM8 mode 256,000 colours will be available simultaneously from a palette of 16.8 million in a range of screen sizes including 1024x512 and 800x600 among others – which will obviously produce superb, almost photo-realistic, quality. With the appropriate hardware it will be possible to animate such images as well. Expect to see new software which takes advantage of the new modes as a matter of course.

Looking slightly further into the future we should expect to see even better resolution and full 24-bit support becoming available as the chip set is developed further, so maybe we'll see a 24-bit version of *Deluxe Paint* appearing on the scene. While all this is obviously good news, the down side is that there appears to be no way to upgrade current, non-AGA machines to work with the new chips.

It seems that the Amiga has begun to move forward at a rapid pace once more. Commodore seems to be committed to innovation and technical breakthroughs, which should give rise to machines that will be invaluable to the video (and graphics) communities. But we've been here before. It's time to back up the talk and deliver the product.

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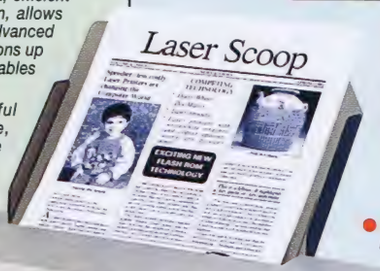
RICOH PCL5 LASER PRINTER

Ricoh UK Ltd is part of the worldwide Ricoh Group of companies, originally established in Japan, in 1936. With a turnover of over $5 billion and 37,000 employees, Ricoh have been producing computers and peripherals since 1971 and are the world's second largest manufacturer of Laser Printer engines. Ricoh have employed their expertise to produce a 'first' in laser printers for the world market, the LP1200 with FLASH ROM.

Fully HP LaserJet III™ compatible, the new LP1200 employs industry proven laser technology. Unlike LED page printers, which use light emitting diodes, the LP1200's laser lightsource, focussed by high quality lenses, is able to produce the most accurate and intense printed images. It has 2Mb of RAM built-in and requires no additional RAM to print a full A4 page of graphics at 300dpi. Its fast, efficient processor and engine, together with a straight paper path design, allows printing at a full 6 pages per minute. Unlike its competitors, this advanced laser engine enables the LP1200 to address a range of print resolutions up to 400dpi. A special driver, combined with the 2Mb RAM upgrade, enables the Ricoh LP1200 to print at 400dpi from Windows 3.

Again, unlike the competition, the LP1200 includes a powerful document description language as standard. This language, 'LAYOUT', offers unique opportunities to develop custom-made printing systems. Forms and document templates can be designed and stored electronically in the LP1200's FLASH ROM, alleviating the need for pre-printed forms!



FULLY HP LASERJET III™ COMPATIBLE

400dpi 2Mb RAM 6PPM

FLASH ROM UPGRADEABLE!

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SHOWN WITH UNIVERSAL FEEDER TOP TRAY (OPTIONAL EXTRA)

RICOH LP1200

- **6 PAGES PER MINUTE** *Using a straight paper path*
- **PCL5 - INC HP-GL/2** *Latest version with scalable fonts*
- **SHARP EDGED PRINTING** *Ricoh FIAL (Fine Image ALgorithm) enhances resolution*
- **400dpi RESOLUTION** *(Requires 4Mb RAM) Default res - 300dpi. Will address 200, 240 & 400dpi.*
- **2Mb RAM AS STANDARD** *For a full A4 page of graphics at 300dpi.*
- **UNIQUE FLASH ROM** *For controller upgrade and storage*
- **IC CARD SLOT** *(PCMCIA/JEIDA Compatible) For programmable FLASH ROM cards*
- **EXPANSION BOARD SLOT** *For improved connectivity to additional systems eg. Coax/Twinax, PC-LAN etc*
- **LAYOUT** *Document Description Language*
- **SERIAL + PARALLEL PORTS** *For connection to PC compatibles and other computers*
- **1 YEAR ON-SITE WARRANTY** *Next working day response*

The Ricoh LP1200 is a genuine laser printer and not an LED printer. Make sure you check out the competition!

See how the Ricoh LP1200 compares to its Laser Printer Competitors

FEATURES	EPSON EPL4100	HP L/JET IIIP	M'MAN TALLY MT904+	IBM 4029 Model 010	RICOH LP1200
Average Street Price (excl. VAT) (*expected)	£569	£699	£699*	£750	£699
Official RRP (excl. VAT)	£945	£1,179	£1,099	£1,099	£1,195
Maximum resolution in dots per inch	300 x 300	300 x 300	300 x 300	300 x 300	400 x 400
Windows 3 Driver @ 400 dpi	-	-	-	-	YES
Print Speed	6ppm	4ppm	4ppm	5ppm	6ppm
Straight Paper Path	YES	-	-	-	YES
PCL 5 Printer Command Language	-	YES	YES	-	YES
HP-GL/2 Vector Graphics included	-	YES	YES	YES	YES
Resolution Improvement/Enhancement	YES	YES	YES	YES	YES
Standard RAM	0.5Mb	1Mb	1Mb	1Mb	2Mb
Full A4/300 dpi graphics with standard RAM	-	-	-	-	YES
Warm Up Time	<45 secs	<60 secs	60 secs	33 secs	45 secs
First Page of Text Output	<20 secs	<40 secs	34 secs	20 secs	<15 secs
Document Description Language included	-	-	-	-	YES
Flash ROM	-	-	-	-	YES
Upgradable Firmware	-	-	-	-	YES
IC Card Slot	YES	-	-	YES	YES
Scalable Resident Fonts - in HP LJ III Emulation	-	8	8	0	8
Resident Bit-Mapped Fonts	11	14	14	16	14
AGFA Intellifont Scalable Font Technology	-	YES	-	-	YES
HP LaserJet III Emulation Included	-	YES	YES	-	YES
EPSON FX Emulation Included	YES	-	YES	-	YES
IBM ProPrinter Emulation Included	-	-	YES	-	YES
Standard Tray Capacity	100	70	100	200	100
Protective cover on standard tray	YES	-	YES	YES	YES
Cost per copy**	1.65p	2.00p	1.71p	1.64p	1.65p
Min-Max Paper Weight in gsm	60-157	60-105	60-120	60-131	60-157
Able to print on OHP Film	YES	YES	YES	YES	YES
Able to print on card (157gsm - Manual Feed)	YES	-	-	-	YES
Standby -Noise Level	<40dB	31.7dB	<35dB	38 dB	<38dB
Printing -Noise Level	<50dB	43.3dB	<46dB	50 dB	<48dB

**As quoted by manufacturers - 2/4/92

Silica Systems are pleased to introduce the revolutionary, new Ricoh LP1200. It has all of the specifications that you would expect to see in today's most technically advanced laser printers, plus a unique additional feature which places it far ahead of the competition - FLASH ROM. This 'Future Proof' technology protects the investment you make when you buy a Ricoh LP1200, as it enables you to keep up to date with new laser firmware developments. FLASH ROM is an area of memory inside the LP1200 which holds the printer's controller instruction firmware. If new firmware is developed, updated printer command languages etc, can be downloaded into this memory. Other manufacturers would require you to buy a new printer! Fonts, macros, graphics and additional emulations can also be stored in FLASH ROM, or on removable, industry standard FLASH ROM IC cards. The new Ricoh LP1200 is the only laser printer to offer this FLASH ROM facility. The LP1200 comes with a 100 sheet A4 paper tray (letter and legal trays also available as extras) and the facility to feed single sheets of paper and card up to 157gsm. An optional extra universal feeder provides the facility to automatically feed up to 150 sheets, from sizes of 98mm x 148mm to 216mm x 356mm in size at weights of up to 158gsm. The universal feeder also feeds up to 15 envelopes, overhead transparencies and labels automatically.

Consumables + Accessories

CODE	PRODUCT	PRICE Exc VAT
CAB 7500	Cable for PC/ST/Amiga	£8.47
LAA 5238	Universal Feeder (2nd Tray)	£100.00
LAA 5262	2Mb RAM Module	£149.00
LAA 5210	Developer/Toner Cartridge	£65.00
LAA 5225	OPC Cartridge (Drum)	£89.00
LAA 5334	Letter Paper Tray (100 Sheets)	£35.00
LAA 5323	Legal Paper Tray (100 Sheets)	£35.00
LAA 5312	A4 Paper Tray (100 Sheets)	£35.00

CALL FOR A FULL PRICE LIST

*Note: A4 paper tray is already included in the £699 price. More A4 trays can be purchased to feed different coloured stationery.

LP1200 WITH SINGLE BIN & 2Mb RAM SILICA PRICE:

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Before you decide when to buy your new laser printer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals or consumables, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. We have been established for almost 14 years and, with our unrivalled experience and expertise, we can now claim to meet our customers' requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest FREE literature and begin to experience the "Silica Systems Service".

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Opening Hours: Mon-Sat 9.00am-5.30pm		Late Night: Friday - 7pm	Fax No: 081-309 0017

To: Silica Systems, AMFOS-1192-75, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

PLEASE SEND INFORMATION ON THE RICOH LP1200

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Address: .....

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Tel (Home): ..... Tel (Work): .....

Which computer(s), if any, do you own? 75G

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Heavy on the make-up

Recognise the illustration? It's from our definitive DTP issue, *Amiga Format* 34 where not only did we tell you all the ins and outs of Amiga DTP, but we reviewed the two top programs and even gave away *PageSetter* on the Coverdisk!

DTP is becoming a reality on the Amiga. **Marcus Dyson** has found plenty of reasons during 1992 to sing its praises, and with some excellent scanners and layout software becoming available for the Amiga you can see why...

WELL WHAT A year 1992 has been for Amiga DTP. Both the top two programs, *Professional Page* from Gold Disk and *PageStream* from Soft Logik, have been released in new and improved forms, and true professional-quality DTP is at last a reality on the Amiga. These two have been waging a running battle for years now.

ProPage was the first program for the Amiga that could even pretend to be even near professional quality. *PageStream* followed, bringing with it many innovations that gave ProPage a true run for the money, but our comparative tests always found *ProPage* to be the better program of the two. This year, however, we were not alone in concluding that the new release of *PageStream* had finally taken the first place, and with it become the best Amiga DTP package and the easiest to use.

Yet the old adversary *ProPage* is not to be written off: the new release, version *3*, features a revolutionary new macro system that harnesses the power of the AREXX language packaged with Workbench 2 to enable very easy control of complex DTP functions.

Page layout is still not the Amiga's strongest field, however. Speed is still against the Amiga, running on an A2000 neither of the two main contenders match the speed of an Apple Macintosh-based DTP system. But the recent drop in price of the A3000 means a

***ProPage 3* was the program that defined serious Amiga DTP and it's still a strong performer.**

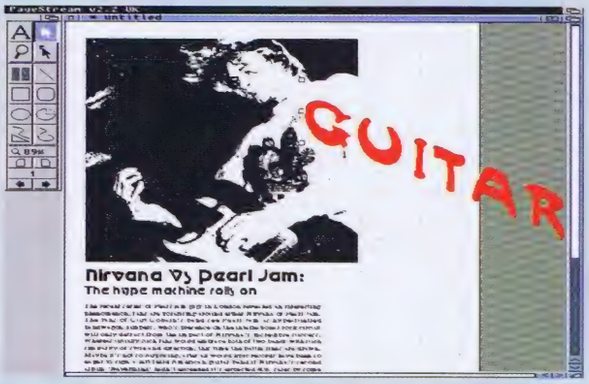
workable Amiga DTP system is now an affordable possibility. And price is one area where the Amiga retains a big advantage over competitors, its DTP programs costing around £200 as opposed to £500 on a Mac.

The release of the Amiga 4000 should see a hardware platform capable of competing with other machines on an equal basis in terms of processing power and speed while hopefully retaining the edge on price. What Amiga DTP lacks, though, is quality on-screen representation of scanned images. The hardware and software now exists for full-colour DTP on the Amiga. But once an image is scanned, the current programs only give a poor monochrome on-screen preview of the raster image. Amiga DTP programs tend to run in four or eight colours as well, which is simply not adequate for a good impression of the finished document to be gained from the screen image. The true future for DTP has to be comprehensive support of 24-bit cards to enable true WYSIWYG screen representations. The technology exists, but the software isn't exploiting it.

Obtaining high-quality images for the Amiga has never been easier, or cheaper. The release of the ASDG driver for the Epson GT-6000 brought the price of 24-bit colour scanning to affordable levels, the quality is great, and the resolution is a stunning 600 dpi. This is pro-quality equipment, and no mistake.

Being able to scan images is one thing, turning them into something you can print and use to best effect in your document is another thing altogether. For this you need an image-processing package, so that you can manipulate an image to take it out of the mundane and lift it into the truly dramatic. Fortunately the software that drives the Epson GT-6000 scanner is an extension of ASDG's *Art Department Professional*, which appeared this year in a new release, taking image processing on the Amiga to new heights. *ADPro* was not alone in the image-processing stakes though, and Black Belt Systems (whose

IT'S THE PICK OF THE YEAR



If you're going to do serious DTP on the Amiga, *PageStream 2.2*. now fractionally pips *ProPage 3* at the post. But it's a close thing.

PAGESTREAM 2.2

SOFT LOGIK/HB MARKETING **£1,175**

Prior to this release of *PageStream* the DTP crown really had to go to *ProfessionalPage*. But this revision to version 2.1 manages to just pip *ProPage* at the post. The new software has an attractive and familiar front end, which means new users will find the program less daunting. The interface has a far friendlier feel to it, all the features are accessible through the menus and requester boxes and arcane typographic jargon is avoided in favour of logical terminology.

What makes it the DTP package to go for, though, is its ability to run on a standard Amiga from floppy disks and run comfortably in a 1Mb environment. You also get a quality range of fonts and it is compatible with both Adobe Type One fonts and Agfa Compugraphic typefaces. *PageStream* also supports a variety of word processing and structured-drawing packages, and text and pictures can be dramatically manipulated once they are in the program. The colour output facilities are powerful because the package is fully PostScript compatible and has Pantone colour specifications. Not only all this, but *PageStream* is £50 cheaper than its direct competitor.

***Expert Draw* has the same features as *Professional Draw 2*, but it gives you fast structured drawing at a remarkably low price.**

EXPERT DRAW

GENISOFT/HB MARKETING **£69.95**

It must be said that Expert Draw is the second-best structured drawing package available on the Amiga. Then why recommend it here? Well, the best structured drawing package is mentioned above – *ProfessionalDraw 3* – but unless you have a hard drive (and in Issue 37 our reader survey results revealed that less than 20 per cent of you do) you cannot use that program.

Expert Draw is no disappointment, though: it offers the same features as the previous release of *ProDraw* but for a lower price. Its only failing is that it is not directly compatible with Agfa Compugraphic outline fonts. A conversion program is available, and though this costs £30 more, it leaves the price comfortably below that of *ProDraw*. *Expert Draw* delivers in all the most important factors: features, presentation and speed of operation.

PROFESSIONAL DRAW

GOLD DISK **£99.99**

The area of structured drawing has seen a lively year, with the release of Gold Disk's old stager *Professional Draw* in the tasty shape of version number 3 and at the same time strong competition from GeniSoft's bargain offering *Expert Draw* (see 'Pick of the Year', left). The latter has brought all the features we've come to expect from *ProfessionalDraw* to us at a cheaper price.

ProDraw 3 has raised the stakes by bringing us a whole new set of standards by which to judge a structured drawing package. The only drawback of *ProDraw*, in common with its DTP equivalent *ProPage*, is that it requires a hard drive to run. Masses of RAM just won't do: you have to have one of the big expensive fellers. If you do own a hard drive then go for *ProDraw 3*; if not, then you will find that *Expert Draw* will serve you admirably.

excellent pseudo 24-bit system HAM-E disappeared from the market place this year amid rumours of it having been incorporated into the double-A chip set) emerged with *ImageMaster* – a new version of the *Image Professional* software that was bundled with HAM-E.

It has a confusing interface hiding a powerful package that pushes the power of image manipulation to new levels. Incredible effects can now be applied to an image, either by warping or distorting its shape, or by combining it with another image. *ImageMaster* is an incredible program, let down only by its small range of file formats and poor front end. Black Belt is currently working on the interface, however, and the next release of *Image Master* should see it vastly improved.

The interface of *ADPro*, by contrast, excels, and ASDG is aware of this to the extent that it has now made the libraries to the *Art Department*'s user interface available to developers, so we should see a common look to image processing and manipulation software starting to appear in the next year or so.

Another form of data input making its Amiga debut this year was the AlfaData OCR hand scanner. Optical character recognition software can analyse a scanned file and turn it from a picture into ASCII text characters. This is a boon when entering text into a word processor for use in DTP: instead of all the monotonous typing, all you have to do is run the scanned file through the software, then spell check it in your word processor. The AlfaData scanner is an adequate performer, yet the price is amazingly high: the expense is due entirely to the OCR software which is bundled with it. While this is no improvement over similar systems on other computers, it is accurate enough all the same and is worth a look for users who have to key in a lot of typewritten text.

The other interesting feature of the AlfaData is *Merge-It*. This package attempts to get round the restrictive scan width of all hand-held scanners by joining the images of two adjacent scan passes. The results are adequate, but if you're scanning bigger than A5 it's probably best to get a flatbed scanner.

At the other end of the hand scanner price range is the bargain priced PowerScan. This retails for under £100, a feat unprecedented in the Amiga market. But many were surprised when it turned out to be the best hand-held mono scanner we've ever seen. It has to be said that though all hand scanners are virtually identical in terms of hardware, it's the software that sorts the men from the boys.

The year ahead looks good for image input. Not only has the GT-6000 brought superb quality within the Amiga owner's reach, but other manufacturers are planning to launch Amiga drivers for their hardware. What the Amiga lacks is a good transparency scanner – ASDG and Nikon please take note.

The variety of fonts that comes with the package is a strong point of *PageStream 2.2*.

COMPANY CONTACTS

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A standard true-colour platform is needed to re-establish the Amiga as the supreme graphics machine, says **Amiga Format** art editor **Marcus Dyson**...

"The Amiga: still on top?"

CHANCES ARE, IF you're reading this, then you've got an Amiga. If that's so, then you might have bought it to create music using the incredible power of Dr T'S *KCS*, or you may have bought it to do your accounts utilising the impressive facilities of *Professional Calc*. It's even possible that you got it so you could catalogue your CD collection, complete with pictures of each cover and samples of every track using the multimedia capabilities of *Superbase Professional 4*.

However, I would put money on the chance that you got your Amiga because of its graphics capability. It may have been because you had an 8-bit machine before and you realised that games in 32, 64 or 4,096 colours (yes, there has been at least one HAM game) could knock the spots off anything the other machines could do.

You may have been attracted by the Amiga's graphical capabilities, if you are an artist or video producer. But all in all the chances are that you were hooked into the universal club of Amiga ownership by what the Amiga could muster on a monitor screen. You weren't wrong. The Amiga has always been better graphically than any other computer in its field, and it still is.

The only problem, though, is that the other machines are catching up. The once pathetic PC now boasts 256 colours on all but the most basic models; the DTP staple Apple Macintosh has had 256 colours for an age, and 16,700,000-colour 24-bit models are becoming a very common sight in the design studios of the land. OK, so they're professional machines, and they don't really count, but what about the Atari ST? The Amiga's arch rival has just come out in a new form; all right, it's not actually an ST, but it is Atari's bid for the home computer market, and it does have more colours than Jason Donovan's biblical anorak.

Oh, remember a few lines back when I said the PC and the Mac don't count, because they are professional machines? Well I lied. Of course they count – just because you have a 500 is no reason to desert the Amiga owners who are lucky, rich, or professional enough to have a 3000. The thing is, computer graphics are improving on virtually every platform. But in an industry where you have to run very fast just to stand still, it sometimes seems as if Commodore hasn't yet taken to the starting blocks.

> "Computer graphics are improving on virtually every platform, but in an industry where you have to run very fast just to stand still, it seems Commodore hasn't yet taken to the starting blocks"

Hasn't it always been the third party developers who have forged new paths on the route to graphical heaven on the Amiga? Did Commodore develop the Amiga's first 24-bit card? Nope, the Amiga Centre Scotland, with Harlequin, did. Did Commodore take existing 24-bit technology and make it affordable? No, Archos with their AVideo card did. Did Commodore develop alternative technology to bring pseudo 24-bit imagery to Amiga owners? No, Digital Creations did, with DCTV.

So what am I trying to say here? That Commodore is crap? Far from it. After all, Commodore did bring us the Amiga in the first place, and has just improved the base model and reduced the price. But the penalty that is being exacted for having all the graphics technology breakthroughs made by third-party developers is one of incompatibility. If you use the unrivalled image compositing abilities of *DCTV Paint* to produce a drop-dead gorgeous image, you can't bung it on a disk and send it to one of your Amiga-owning friends – not unless he or she has *DCTV* too. And if you have a particularly fabulous piece of software like *VistaPro2* and a stupendous piece of hardware like an AVideo card, it doesn't necessarily mean that one will be able to exploit the abilities of another.

Software developers are faced with a plethora of graphics protocols from which they must decide which 24-bit card to support. The more compatibility they incorporate, the higher the price their software will be because it reflects the cost of coding the necessary support. As more cards like AVideo, Harlequin, FireCracker, OpalVision *et al* are being developed with each passing day, the situation will not improve.

But can anyone do anything to create a standard true-colour platform for the Amiga to establish itself once more as the *de facto* supreme graphics machine?

Well if anyone can, Commodore can. Now is the time for Commodore to take the Amiga back under its wing and develop a universal standard for 24-bit graphics. Having done that, Commodore should then put that technology in all its machines. Once the user base is there, the immense innovative skill which until now has mainly been devoted to enhancing the Amiga's graphics capabilities, can be turned to writing software to extract the very best from the new standard.

All well and good, but will this ever happen? Well for once the signs are not too bad. As we go to press, our review model of the A4000 has arrived and, by the time you read this, it may even be on sale near you. The new machine has Commodore's Double-A chip set, which uses 32-bit architecture throughout, enabling it to throw data around at least twice as fast as a 'normal' Amiga. And throw data around it will have to, because the new chipset has several new graphics modes that are extremely interesting. The Super HAM mode, rumoured in some circles to be essentially a version of HAM-E, will offer 262,144 colours on screen, selected from a palette of 16,777,216. And this palette, unlike previous HAM modes, will work on a super high resolution screen.

But what about you and me, the humble A500/Plus/600 owners? Well, it wasn't such a long time before the ECS made its way from the none-too-affordable A3000 into the absolute bargain A600. The Double-A chipset may seem like pie in the sky at present, but one day the Amiga games variant may sport it too. And that new A570 CD drive that Commodore has just given us all the opportunity of hanging from the left-hand end of our Amigas. Many people say they can't see anyone writing a 600Mb game for it, and I agree, but I think a game with 2Mb of operating code and 598Mb of super-sexy 24-bit graphics may not be such a long way off.

Serious users would also benefit massively from improved graphics modes. DTP programs on the Amiga are great now, except for one thing – they can't display pictures in colour. That hurdle would be vaulted in next to no time if true colour machines were commonplace. Once 24-bit technology is standardised, the marketplace for scanners and digitisers will open up massively. And the laws of economics say: bigger market place, lower prices.

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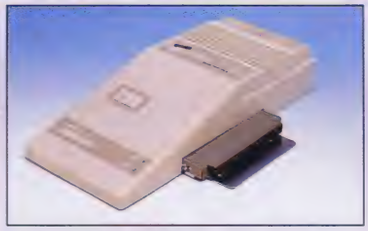

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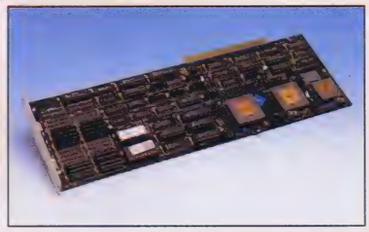

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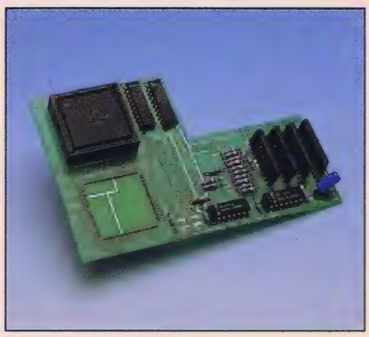

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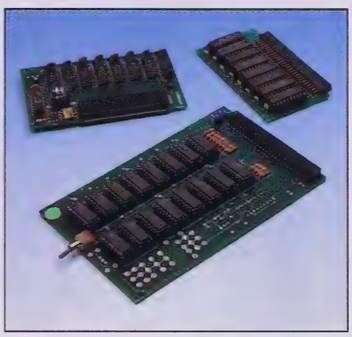

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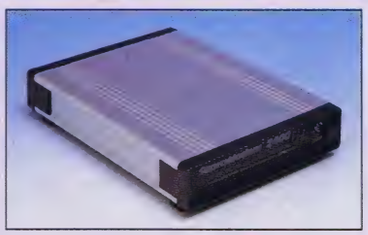

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Music on the Amiga powers ahead – loads of new, high-quality programs are cropping up with increasing regularity. **Andy Nuttall** plugs in, switches on and samples what we can look forward to in the coming months...

The times they are a-changin'

In *Amiga Format* issue 37 Urban Shakedown showed you how to make a hit record with *OctaMed 3*.

IT'S BEEN AN exciting year for music and the Amiga. While hardware and software manufacturers have been developing music gear for the Amiga since day one, it has unfortunately always played second fiddle to the Atari ST because of the latter's built-in MIDI ports.

It's true to say that any computer can do a perfectly good job of running a MIDI studio, provided it's running the right software. The problem is getting hold of the right software, and Amiga owners have, in the past, suffered from a dearth of quality music programs compared to those that are available for the ST and Apple Macintosh.

Well, times they are a-changing. Recently the Amiga has been building up a reputation as a machine to be reckoned with. What with the massive number of existing Amiga owners, and the fact that the A600 is set to make the Amiga grow even stronger in the marketplace, developers have started to sit up and take notice. The result of this is the Amiga is now finding its way into many professional music studios, as well as becoming more and more popular with the amateur musician.

Such support from musicians inevitably leads to interest from software developers who are keen to tap into a lucrative new market, so now we have more music programs than ever becoming available. Now's the time to take a snapshot of the current scene; to look at what is just becoming available and what new packages we can look forward to as we head gamely for 1993.

During the next few months, several new packages are due to be released on to the Amiga music market. Let's have a sniff around and see what exciting new programs are coming up.

PHANTOM

DR T'S/ZONE £249

Phantom is a MIDI interface that can be used with the entire range of Amigas. It has a built-in tape sync unit (SMPTE) so that you can link up your multitrack tape recorder to your sequencer (it's compatible with *KCS*, too). It's priced at around £249 and has a 'serial through' port which means that you can plug in another serial device while *Phantom* is still connected up.

SUPERJAM STYLES DISKS

BLUE RIBBON SOUNDWORKS/ ZONE £25 EACH

Styles disks are now available from Blue Ribbon that enable *SuperJam* music creation software to extend its repertoire to three more musical styles: *Classical*, *Pop & Rock* and *Cutting Edge*. The first two speak for themselves, while the latter has a sort of 'New Age' feel. Each disk costs £25, but if you want to buy all three you can get hold of them for £65.

TRIPLE PLAY PLUS

BLUE RIBBON SOUNDWORKS/ ZONE £149

While most MIDI interfaces offer 16 channels with which to organise your MIDI sounds, *Triple Play Plus* offers 48 channels when used with Blue Ribbon's popular *Bars & Pipes* sequencing package. Plugging into the serial port of the Amiga, the unit also doubles as a normal 16-channel MIDI interface when used with other packages, and for £149 it's a snip.

RAVE

DIGITAL NEWS/ SOFTWARE BUSINESS £49.95

This is a low-cost MIDI sequencing package which is being developed in the style of *Music-X*. It will use a similar graphical display, in which notes are entered on a scrolling grid, but it promises to be a great deal easier to use than even *Music-X*, which is currently the most popular and user–friendly Amiga sequencer around.

Other details are still sketchy, but it will certainly be released before Christmas and very competitively priced at around £49.95.

NOTATOR-X

DESERT SOFTWARE/ SOFTWARE BUSINESS £N/A

As its name suggests, this is a software program which is compatible with the incredibly popular sequencer *Music-X*, and enables full musical scores to be created, edited and printed out. The program will enable the user to load and save *Music-X* files, MIDI files and

WHAT THE MUSIC INDUSTRY THINKS...

"The ST has got an established software base because of its MIDI ports, but it isn't that powerful a computer. It's more luck than anything that it's got where it has. The Apple Mac is very powerful, but expensive; while the PC is the most widely used, and its software base is growing, but its hardware is relatively archaic.

"The Amiga, by contrast, is cheap and powerful - just look at the new A600 – and everything that is available on the ST is available for the Amiga.

"*KCS* started out on the ST, but with the incredible popularity of the Amiga it was converted for that machine. Now it's more powerful and looks better – this is a good example of the way that the Amiga is taking over from the ST in terms of high-end music hardware and software."

Christian Simpson, Zone Distribution

"In the sequencer market the Amiga's quite strong, but it needs a *Cubase*-compatible sequencer before people will view it as an alternative to the Mac, PC and ST.

"The new 16–bit samplers could prove to be very good. But the Amiga could also do with an Akai sample editor and other general sample utilities."

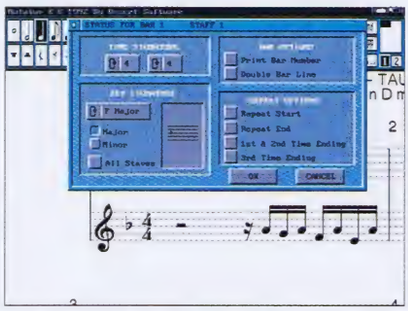
Maff Evans, *Future Music* magazine

"In the UK there's a huge base of Amigas, and its advantage over other music computers is that it can play samples without external hardware."

Steve Thomas, Dr T's Music Software

"The Amiga has gained ground over more established computers in the professional music market."

Alan Ackers, Gajits Music Software



The impressive looking *Notator-X* program forms part of the forthcoming *Music-X* version *2.0*.

Notator-X files, and it will copy MIDI data to and from *Music-X* without having to save to disk first.

Scores can be edited or created either in a page format, or in a 'continuous stave' format, which means that a musical piece that is larger than the screen display may be created, and the program will scroll along as required. The staves may have one or two tracks assigned to them, which means that two different instruments may be displayed on one stave.

The notes which are entered are automatically aligned to fit on the staves, while an auto-spacing routine ensures that notes and rests with small durations don't overlap and blur, and large durations don't take up too much space. The full score may be viewed in one of three sizes on screen, and may be printed using any standard Amiga printer driver, including laser printers. The results of a hard copy from a laser printer are very impressive indeed.

Lyrics are also supported. ASCII files containing song words can be loaded into moveable frames, so that blocks of text may be easily positioned on a page.

Notator-X is a stand-alone program, which means that it doesn't need *Music-X* to run, although unfortunately it will only be available with *Music-X* version *2.0*, which is going to be released soon.

CLARITY 16

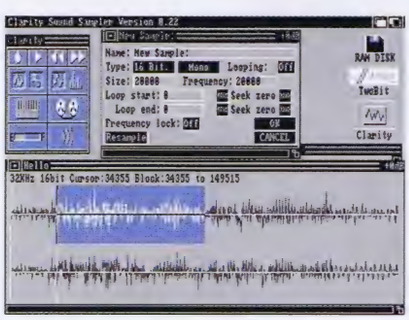
MICRODEAL **£149.95**

Microdeal, maker of such fine Amiga sampling equipment as *Stereo Master*, has again come up trumps with the imminent release of a 16-bit stereo sampler for the Amiga. Using 16 bits both on the input and the output side, the unit plugs into the serial and printer ports, so it can be used with the entire range of Amiga computers – including the A600. This is a definite plus, because most of the quality sampling equipment to date has been configured as a Zorro II card which plugs into the A1500 – A3000 range.

As if this isn't enough, *Clarity 16* also contains a full specification MIDI interface, so that it may be easily connected to a MIDI keyboard or external sequencer. Does this hardware specification sound too good to be true? We shall see…

The software which comes with the package also promises to be quite a high specification. Along with the normal 'cut and paste'-type options there is a stereo panning facility, digital filtering, sample re-synthesis (mixing other sounds with the current sample), and a whole range of functions which may be applied to the sample including echo, flange, reverb, chorus and distortion. The latter functions may also be applied in real-time to the stereo audio input.

The program also features a one track sample sequencer, which can be useful if you don't have a separate sequencer and you would like to arrange your samples into a basic pattern. Expect to find *Clarity 16* in the shops sometime in November at just under £150 .



Could this be the start of another sampling revolution? 16-bit sampling for £150 – looking good…

BOOM BOX

DR T'S/ZONE **£45**

Billed as an 'exciting interactive music program', *Boom Box* is the latest program from Dr T's. It has a basic mixing desk, effects generator and sample player all in one, and it will enable you to create all sorts of techno dance tunes using just your Amiga.

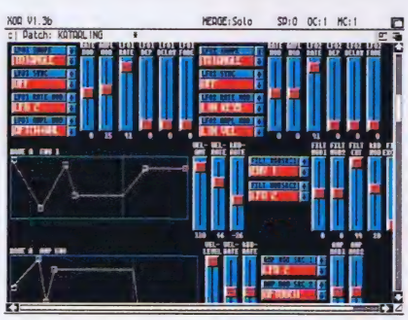
***Boom Box* is an easy-to-use program for all you budding hip-hop and rap artists.**

Although it won't be MIDI compatible, it's possible to loop sections of IFF samples, add echo, reverb and other effects to the music, and jam along to your favourite tunes using the joystick. Any non-musicians interested in making some decent music – watch this space.

X-OR PROFILE DISKS

DR T'S/ZONE **£5 EACH**

Due for release soon are four disks for use in conjunction with the *X-oR* generic patch editor from Dr T's, which increase the range of synthesisers and sound modules which the program can recognise. Almost every synth available may be edited via *X-oR* and your Amiga. The disks cost £5 each and will be available before Christmas.

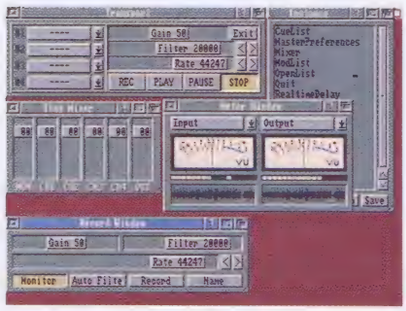


***X-oR*, the only patch editor for the Amiga, is now expanded to cover a huge range of synths.**

AD516 STUDIO 16

SUNRIZE INDUSTRIES

The AD516 is the 'Big Brother' to the AD1012 direct-to-hard disk recording system for the Amiga. Packaged with the latest version (2.0) of the *Studio 16* sample editing software (which was reviewed in ***Amiga Format*** 38), the AD516 offers up to eight tracks of 16–bit sampled sound. A SMPTE time code reader is also included, and a dedicated DSP chip handles the main sound editing functions. The AD516 is configured on one Zorro II card for the A1500 or above. It will enable up to 48KHz sampling rate, making it compatible with both DAT and CD, and 64 times oversampling, which means that it will easily correct any glitches that may occur on your samples as they are played back. Currently available in the US for $1,495, it's due for release in the UK before Christmas.



16-bit direct-to-disk recording comes to you in the form of the AD516 from SunRize…

DD524

SUNRIZE INDUSTRIES **£TBA**

Also up for release in around six months' time from SunRize is the DD524 card for the A1500 or above, which will enable digital music data to be ported directly to or from hard disk via a digital connection on your CD or DAT player – useful if you use the card to port the data on to your hard drive and edit it using *Studio 16* software. The price and release date are not yet available.

COMPANY CONTACTS

DR T'S MUSIC SOFTWARE & BLUE RIBBON SOUNDWORKS from ZONE DISTRIBUTION, Eurolink Business Centre, Unit 70, 49 Essra Road, London SW2 1BZ ☎ 071-738 5444

DESERT SOFTWARE & DIGITAL NEWS from SOFTWARE BUSINESS, Suite 1, Unit 1, Cromwell Business Centre, New Road, St Ives ☎ 0480 496497

MICRODEAL, PO box 68, St Austell, Cornwall PL25 4YB ☎ 0726 68020

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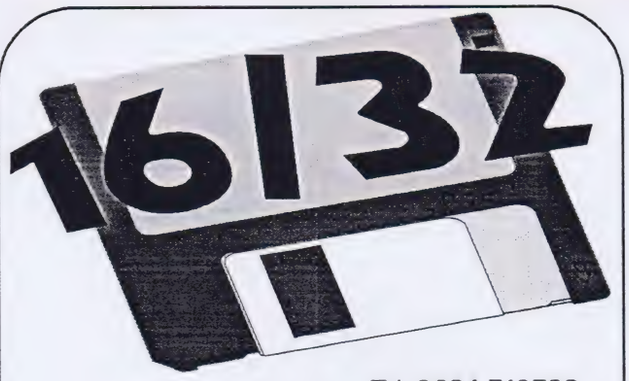

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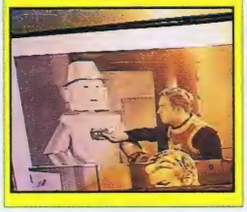

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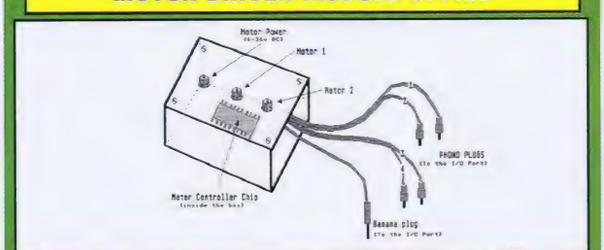

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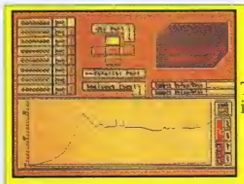

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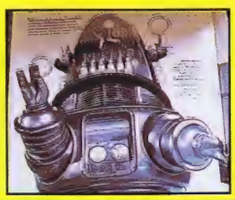

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Andrew Nuttall, musician, studio engineer and **Amiga Format** writer, sees a vision of a musical future where everyone will take part in creating a new music for a new age...

"The punk revolution"

IT'S ALREADY BEEN proven this year that punk music has gone techno. Remember, punk is an ethic – it's about doing it with no money but with bags of attitude. And in this day and age, what better way to do it than with a computer costing £400, taking on the studios that do it with many thousands of pounds?

Urban Shakedown are two guys with two Amiga 500s, public domain software that cost nothing, and heaps of ideas. Linking up two Amigas with a simple click track, they produced a sample-based hardcore dance track that got them into the Top 40 singles chart.

But financial success is of little consequence. Sales of records are falling so rapidly that, in comparison to the computer games industry, even respected organs like *Q* magazine have started suggesting that pop music is on its last legs. Yet all around the country, people are gathering to dance to music essentially created by the people and for the people.

In the future, many more budding musicians are going to do what Urban Shakedown have done – put together their own sounds using the absolute minimum of equipment and discover that people like it. In village halls, clubs and minor venues all round the country, new sounds will spring up, created by people who don't aspire to being interviewed on Saturday morning kids' TV – they just want to entertain the people around them. Yes, my friends, I am offering you musical anarchy, courtesy of the free availability of the means of production – a 16-bit computer with sampled sound.

And, let's face it, the Amiga doesn't just stop at sounds, either. We already know of several people who are using Amigas to provide the visuals for raves and all-nighters. If it's colour, movement and vibrancy you're after, a little bit of Amiga graphics is what you need. Party, as they say, on.

> "Yes, my friends, I am offering you musical anarchy, courtesy of the free availability of the means of production – a 16-bit computer with sampled sound. And, let's face it, the Amiga doesn't just stop at sounds..."

However, that's not to say that the Amiga is just a guerrilla weapon in the music of the future – the music hardware equivalent of the AK-47 assault rifle. It does have a future in the studio, too, as more and more people realise that you can replace a lot of expensive dedicated equipment with a single, cheap, flexible computer.

If you cast your mind back, say, seven years ago, you may remember that the Apple Mac and the IBM PC were the main tools musicians used for computer sequencing. Then along came the ST and the Amiga, and the ST was instantly taken in by the music community as a cheap alternative – leaving the Amiga behind simply because the ST had a built-in MIDI interface. If there's one thing that will make a big difference to the Amiga it would be built-in MIDI and I hope we see it happen very soon.

Some developers did work on sequencing packages for the Amiga, realising its potential to play up to four internal samples and numerous MIDI tracks simultaneously without the need for extra hardware. The most notable package that appeared was Aegis' *Sonix*, released around 1987. This was a really quite high specification sequencer which made use of the mouse to enable users to enter notes directly on to a musical stave and, as such, was a predecessor to such popular packages as *Sequencer One* and *Music–X*. *Sonix* is still available and is still very popular, even though it looks very dated.

Looking at the situation now, the Amiga has never been in a better position to cash in on the sampling and sequencing market. Musicians are now beginning to realise that the Amiga is inexpensive and yet still incredibly versatile, and that they can not only use it to sample and sequence but also to design their record sleeves and play some mean games.

Yep, let's face it – the fact that you can get a wide range of darned good games for the Amiga is going to mean a lot of small studios and home musicians will get an Amiga, so long as they know it can still run a good sequencing package as well. Musicians are human too, you know.

But as far as software and hardware for the Amiga goes, the best is yet to come. Given the vast catalogue of new music software and hardware which is even now lined up for release, the Amiga is to enjoy more powerful packages with more and more power for less and less cost.

Take as an example the new 16-bit sampler from Microdeal, Clarity 16, which enables you to sample CD-quality stereo sounds. What other machine can you buy which will enable you to add on a sampler of that sort of quality for 150 quid? Another astonishing example is the AD1012 16-bit direct-to-hard-disk recorder from SunRize Industries of California. Normally, direct-to-disk recording is the domain of dedicated hardware systems costing thousands, but with the Amiga it will soon be possible for under a grand.

Even the public domain software libraries are packed with quality music products. Take the *MED* and *OctaMED Professional* programs for example. For around £10 you can pick up a sample-playing program which will enable you to sequence up to four channels of internal Amiga samples, and add effects such as pitch slide and volume ramping to them. £20 will buy you the *Pro* version, which uses a nifty piece of coding to trick the Amiga into believing it can play eight tracks of samples.

While on the subject of internal Amiga samples, there are also several sound libraries available from various sources. They generally consist of Amiga disks crammed with IFF samples (which can be loaded into most sequencers and sample trackers such as *MED*), and usually cost only a few pounds each. What a fine resource for the punk musician.

While the PC, Macintosh and ST are far from dead in the recording studio, the Amiga is rapidly catching up.

We've heard tale after tale of studios discovering that an Amiga can do amazing things and with a professional-standard sequencer like Dr T's *KCS*, they don't lose any of the power of more expensive systems. Watch this space, and the Amiga will rocket.

For now, though, the Amiga is in a very strong position and is getting stronger by the day. Commodore has shown itself to be committed to updating the Amiga on a regular basis, while retaining a good percentage of compatibility with previous models.

This means that the Amiga is going to continue to be the machine to have, and that companies such as Dr T's, Blue Ribbon, SunRize, Microdeal, Gajits and all the others will continue to develop music software for years to come. And believe me, for Amiga-owning musicians, the future has never looked more rosy. So dust off your Amiga, treat it to a new sampler and, er, shake your funky stuff – or whatever passes for dancerly exhortation these days...

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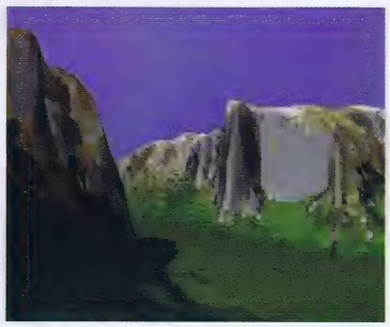

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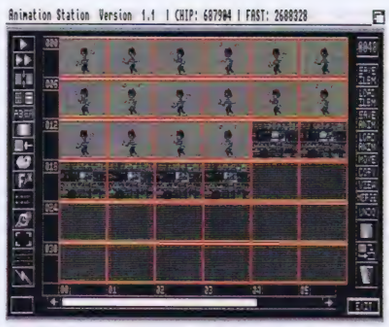

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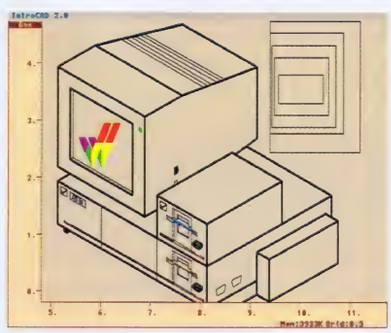

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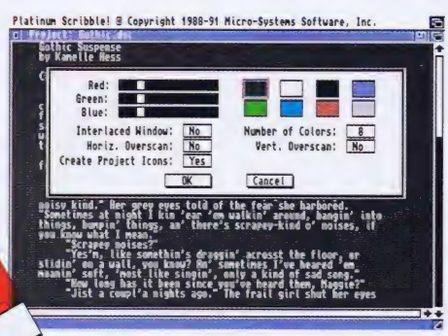

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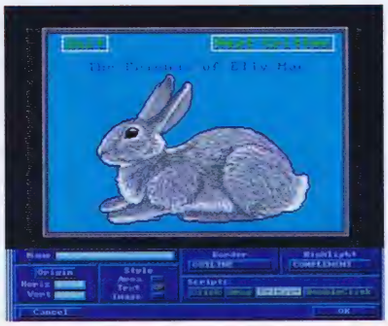

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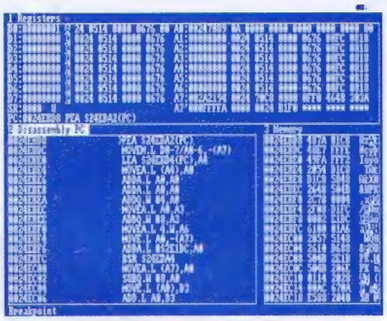

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PCs rule the roost in the business world, but the Amiga is finding niche markets where the PC doesn't stand a chance. **Mark Smiddy** reports...

Business account

The PC was launched as a business machine and is now trying to get into games. The Amiga was always planned as a multi-talented micro and is now proving it.

THE LAUNCH OF the A500 Plus and the A600 forced developers to treat Workbench 2 with the respect it deserves. No longer is it the exclusive preserve of the rich – it packs features that 'the person in the street' demands. One of the first developers to realise Workbench's coming of age was Digita, which devised its own variation on the theme in its *Wordworth* application called the 'Human Interface Protocol' (HIP).

A lot of thought went into the design of HIP and it shows in the company's new products. An inevitable marketing side-effect of HIP is that it does not require Workbench 2 in order to function, and will happily work on any machine running Kickstart 2 or higher. Nevertheless, it does work better on true Workbench 2 machines. This is just one more reason why prospective business users should update all their machines to version 2 ROMs as soon as it is economically viable.

Workbench 3 is on the way now and, although a low-end machine is still some way off, the question must be posed: update now or wait? There is little doubt Workbench 3 will be better, but it will take software developers time to catch up. Just think how long it has taken them to get used to Workbench 2...

Even now, over a year after it became widely available, few programs support Workbench 2 facilities – although many more have the Workbench 2 look and feel. Workbench 2 was the update that the Amiga badly needed and, apart from a few bug fixes, it will remain the *de facto* standard for some years yet. After all, replacing a ROM and custom chipset is neither a simple nor cheap exercise. Especially considering that the A600 is the low-end mass-market machine.

Some 'experts' might scoff at the thought of using a machine with an integral keyboard as a serious computer, especially when you consider the Olivetti Prodest or Amstrad PPC – neither of which succeeded in forming niches. But let's not forget the huge market in laptop PCs; although the Amiga 600 does not have a monitor, it remains a highly portable machine which can be plugged into any television, unlike the PC which needs a separate monitor.

PC systems get faster all the time and the latest batch is already hitting the 50MHz barrier in a world where 33MHz at 32 bits is already commonplace. By direct comparison, the standard Amiga running at 7MHz with a 16-bit processor seems crude. But remember, Amiga software is able to use all available memory without any special restrictions.

Add to this the fact that there is no real requirement for the CPU to handle the display, or to control how many programs are running, and you have a very capable computer. It is precisely this technique (multitasking) that PC developers have been clutching for with the recent preference for the Windows graphic user interface over the CLI of MS-DOS. But, unlike the Motorola processors and object-orientated O/S at the core of the Amiga, the Intel 80386/486 are incapable of true multitasking.

> "Although the Amiga 600 does not have a monitor, it remains a highly portable machine which can be plugged into any television, unlike the PC which needs a separate monitor"

Any Amiga can multitask, and a program written correctly for one model will run perfectly well on any other. The one thing that has let the machine down to date is software – but all of that is set to change. Even though the major players on the PC platform such as Microsoft and Lotus don't regard the machine as a serious competitor, Amiga developers do.

The Amiga has managed to be considered a serious contender in the business market by creating a niche in areas such as music, graphics and video. In desktop video and multimedia the Amiga is dominating the market, with applications such as *Scala* and *CanDo*. These are excellent for combining graphics, text and video footage for in-house training programmes or business presentations at trade fairs. Not only this, but more and more professional musicians are using the Amiga for sequencing and sampling.

In the more conventional fields of business software though, the Amiga can easily compete with the IBM PC. Hot from the works at Gold Disk, for example comes the follow-up to *Home Office 2*, a suite of separate programs.

The *Write* word processor, a faster, more powerful version of *Transcript*, is included and now has a 90,000 word spelling checker. This integrates with the *Page* DTP program – basically *PageSetter* 2 – to give a complete page make-up and word processing system.

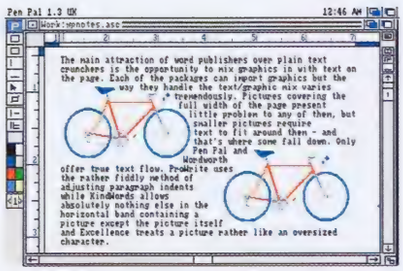
Add to this the power of a stripped down version of the *Professional Calc* spreadsheet (now simply called *Calc*) and a powerful flat-file database (*File*) – and you have a force to be reckoned with.

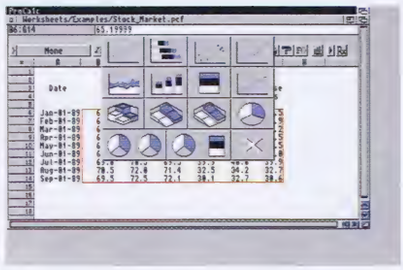
WORD AND DOCUMENT PROCESSING

Word processing has seen some developments in 1992. Softwood's *Pen Pal* has dropped to £49.99; having been superseded by *Final Copy* and *Final Copy 2* an internationally licensed version of the *Pen Pal* is available with a British dictionary and thesaurus.

Final Copy 2 is impressive because it brings the power of programs you would usually only see on the Mac down to an affordable price. Central to the application is the inclusion of 'Nimbus Q' font architecture which enables the program to display and print any font at the full device resolution in sizes up to 400 points high. The program will ship over here with 20 styles from several font families. Algorithmic bold and obliquing have been removed to give the program a more professional appeal. Instead, users can choose custom-defined italic or bold fonts, provided the family supports them.

If you have a 'grey' import, Gordon





Left: *Kindwords* got its much needed update, but it's basically a stripped down version of *Wordworth*. Right: *Pro Calc* is an absolute gem, it's so easy to get the hang of, it's a joy to use. Far right: *Order* is very powerful, but it has an awkward interface.

Harwoods is offering an 'Amnesty Upgrade' to the official UK release, although the price has not yet been announced.

The Disc Company's *Kindwords* got a much-needed update to version 3 this year. Rather than being a re-code of the original, it's a smaller version of Digita's *Wordworth*. Although it is a cut-down version, *Kindwords 3* inherits usability and user-friendliness from Digita's HIP system. It isn't clear why The Disc Company bought the rights to produce this mini-*Wordworth*, but it does that ensure users have a document processor on a budget.

Digita is predicting that the product will be a big hit. Managing director Jeremy Rihll says: "*Kindwords 3* will make a major impact, after all look at its parentage."

The biggest problem with *Kindwords 3* and *Wordworth* is that Digita has used ROM routines to handle the graphics work. This should ensure a high degree of compatibility with future machines but users with earlier models will suffer as a consequence. *Wordworth* is safe even on Kickstart 1.2 but it was developed on later 2.xx machines – and it shows.

Routines that handle graphic images (including text) are improved in Kickstart 2. Floating objects (tab markers etc) follow the mouse easily on Kickstart 2 but play a sloth-like game of catch-up on earlier machines. Later versions should see all this improved.

Possibly the best thing about word processors in 1992 is ***Amiga Format*** issue 41. Why? Because a complete and workable version of *Scribble!* is on the Coverdisk as well as a demo version of *WordWorth 2*.

SPREADSHEETS

This market has been quiet over the last year, with just two 'power' spreadsheets released – and both of them are updates of existing products. Gold Disk's acclaimed *Home Office Advantage* has been upgraded and re-released as *Professional Calc*. The name change was probably not a good idea because *Advantage* was already synonymous with easy-to-use and powerful spreadsheets.

Professional Calc retains the user-friendly features of the original but has a redesigned front end, with a new toolbox. ARexx support has been extended, and functions missing from the original (such as FILL) have been implemented now. Also the Cut, Copy and Paste operations have been given more logical formats. Many options have been added to the graphics facilities, but the package still lacks the facility to display two different graphs on one scale.

A Gold Disk spokesman was unable to comment on the plans for next year, but did say that the company had a policy to upgrade products every year. So, a new version of *Professional Calc* may arrive mid-93.

The other power spreadsheet release was from The Disc Company. Written by Intuitive Technologies, *Maxiplan* has suffered from changing distributors and names. The latest version carries the *Maxiplan* banner once more, but at version 4 it seems little has changed. In retains the outdated interface it had in 1989. *Maxiplan 4* is, in some respects, more powerful than *ProCalc*, it's certainly cheaper (by £30). But overall the Gold Disk solution is easier to use and a lot more stable.

> "In the last year, strange things have been happening to all-time favourite database, *Superbase*... Rumour had it that the Amiga version had vanished"

DATABASES

In the last year strange things have been happening to that all-time favourite database, *Superbase*. The original developer Precision Software is no more. Rumour had it that *Superbase* for the Amiga had vanished, but this was quickly scuttled by Oxxi-Aegis which snapped up the rights.

As far back as July, Oxxi was screaming from the rooftops about both *Superbase Personal 2* and *Superbase Professional 4 LAN*. *Superbase Personal* 2 adds yet more powerful reporting facilities and a mailing label editor to the original. Queries have been extended significantly too.

It seems strange to have a LAN (Local Area Networking) version for a machine that is perceived primarily as a games machine – surely a point more than well made. What this system enables users to do, though, is to share data from PC and Macintosh systems where any one machine is a fileserver and all others work as terminals sharing access to the data. Whether or not the PC-using crowd likes or even accepts this, it catapults the Amiga forward into the realms of big-business use – and once there, it will not (and cannot) be ignored.

Oxxi President, John Huston says: "Networking of computers is the hallmark of today's corporate user... *Superbase Professional 4 LAN* brings the Amiga into this vital arena."

A brand new player in the database market came in the form of *Order 2.1*. Economically priced at £69.95, it comes from the previously unheard of South Hams Software. It's a powerful relational database (like *Superbase*) but takes a lot of ideas from *Omnis 5* on the PC.

The *Superbase* series was designed for windowing environments from the start, and *Order* was not. This means that a new user has to cope with a weird system of rolling menus that should, by this stage in computing, be extinct. It is slow from floppy.

INTEGRATED SYSTEMS

Mini Office is the new kid on the block. Europress Software's Amiga version of this stripped-down suite of business applications is competitively priced at £59.95. Happily, a fair amount of time has been spent on the common interface (a few Workbench 2 idioms have been broken with which I would debate),

Shortly after this launch, Micro Systems Software announced a hefty price cut for *The Works*, dropping it from over £90 to below £60. *The Works* offers more power and functionality, though the learning curve is steeper.

MSS used to offer each main module in *The Works* as a separate package – indeed *Scribble* is still available as such – and *Organise* (the database) can be obtained from a few dealers.

The latest version offers a menu-driven frontend accessing a word processor, database, graphical spreadsheet and a communications system. Each one is a complete program in its own right, brought together they form a remarkable pack.

COMPANY CONTACTS

THE PROFILE (for Disc Company releases),
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DIGITA INTERNATIONAL LTD
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Can't find the right program? Why not just write it yourself! **Mark Smiddy** explores a year of programming on the Amiga...

Checksum '92, '93 routine?

If you got *Amiga Format* issue 39 you'll recognise this cover image, and no doubt be well on the way to coding your own programs with the superb coverdisk giveaway of HiSoft's complete *Devpac 2* assembler.

DESPITE COMMODORE'S EFFORTS to sell the Amiga as a games console, it has always been a true enthusiast's machine, just like the Acorn BBC used to be years ago. It can turn its hand just as well to graphics, desktop publishing and business uses – any computing you want to try. Unlike the BBC, though, the Amiga has become the computer to have, a machine for the masses – like Sinclair's Spectrum and ZX81 before it – and where Sinclair produced a machine for the '80s, Commodore has a machine for the '90s.

But it is not high-performance hardware that sells a machine – it's software. The small number of devotees to the hugely powerful Archimedes compared with the massive market-share for the relatively modest PC proves that. However, someone has to write all that software, and software cannot exist without the tools to create it – but, thanks to the circular nature of the beast, tools for creating software are themselves software, created in turn with precisely the same sort of tools – we're talking programming languages.

The most infamous programming language of them all has got to be BASIC. Although people talk about C and Assembler in hushed voices as if they had some mystical property, BASIC is an accepted norm for the vast majority. Expert programmers often describe BASIC as unwieldy and unstructured, but modern BASICs like *HiSoft* and *AMOS* are anything but. Nowadays the charge is more often true of C.

BASIC is a simple language – as befits something whose full title is Beginners' All-purpose Symbolic Instruction Code – and although it was originally designed with

LET'S GET BASIC...

AMOS – a variety of BASIC ideal for game creation, and the most successful BASIC on the Amiga.

AMOS started life on the Atari ST as STOS, a simple BASIC language specifically intended for games applications, with features like a specially designed sprite creator. According to its author Francois Lionet (pronounced 'Frans-waa Leonay'), STOS nearly didn't make it. "When we wrote STOS for the ST we didn't market it right. I think we sold 50 copies! Europress took over the product and gave it the marketing muscle it needed." The power of advertising showed and catapulted STOS to the top of the software charts. Despite being a programming language in its own right, it was hailed as the best utility ever. Call it what you will, STOS sales have exceeded 35,000.

STOS's unprecedented success gave Lionet the push necessary to try out the Amiga – and he initially wished he hadn't. Recalling his first exploits with the machine, Lionet is quoted as saying: "The Amiga is like a cat — if you don't stroke it in the direction of the hair it gets very upset." However, it's just as well he stuck with it. Sales of *AMOS – The Creator* since its introduction in 1990 have exceeded the magical 50,000 mark. Comments Lionet wryly: "*AMOS* has always been very successful – more so this year. Amiga people are very fond of using their machines for more than playing games and I expect *AMOS Professional* will be a big hit."

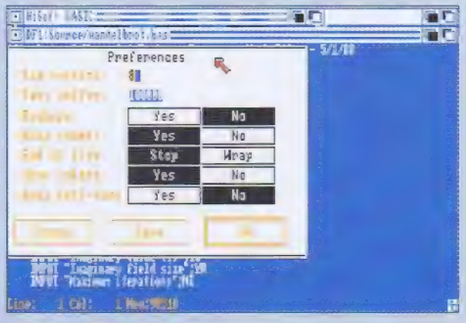
What of *AMOS Professional* then? The product had not even reached the shops at the time of writing, but *AMOS* enthusiasts are already expecting great things. Apart from having many more commands (even the original had over 500) *AMOS Professional* has a greatly improved, Workbench 2 work-alike editor. "I prefer the new editor to the old one," says Lionet. "It's much nicer to work with."

By early next year *AMOS Professional* will receive a compiler to bring the whole system up to speed. Another addition will be an Interface builder – a separate utility to construct the text strings required by *AMOS Pro*'s interface language.

But what about the A600 and future developments of the *AMOS* system? "The A600 is a toy – at least it's not too expensive," Lionet replies. "Atari has a great machine with the new Falcon – I wonder what Commodore will do next? Whatever it is, *AMOS* will support it – provided piracy doesn't prevent us doing a new version."

AMOS is not the only BASIC to receive a facelift. Although a well-structured, compatible and easy-to-use system, *HiSoft BASIC* has never received the acclaim it deserves. Overshadowed mainly by the huge success of *AMOS*, HiSoft scored over its rivals because it was 100 per cent compatible with the original AmigaBASIC without the bugs. It runs a lot faster too.

HISOFT'S TOO...



HiSoft BASIC: not a world-beater, but the new version due soon may give you a choice of viable BASICs.

In a market where only the best will do, HiSoft BASIC lost ground with a simplistic editor and lack of decent system support – features enjoyed by AMOS and GFA BASIC users. Even though both those require a separate compiler (HiSoft BASIC is an integrated compiler and a perfect complement to Devpac) it comes a poor third.

All that may change as HiSoft is set to release the product with a complete facelift. HiSoft BASIC 2 will have a new editor similar to that found in the acclaimed Devpac 3, plus Workbench 2 compatibility and, of course, more commands and more speed to boot. HiSoft's David Link describes the upgraded version as: "a solid, modern Workbench 2-compatible BASIC." It is difficult to predict whether this will be enough to compete in a market already dominated by AMOS, but with the Amiga's renewed push into the area of 'serious' computing the time could be right. HiSoft BASIC 2 is due for release in time for Christmas.

beginners in mind, the idea has spread far beyond its designers' original intentions.

The whole point to BASIC is that it is a programming language that is easy to understand. Taken to the extreme, this implies that you can access everything the computer can possibly do via one simple command. For instance, displaying a moving graphic image on the screen should be no more tricky than displaying some text. The difficulty of these operations increases geometrically as the level at which the programming language operates decreases – that is to say, the closer you get to the computer's own level of language – so something like BASIC can save you a whole lot of trouble. It's all too easy to give BASIC a nostalgic and patronising pat on the metaphorical head, but it has got a place in modern programming no matter what.

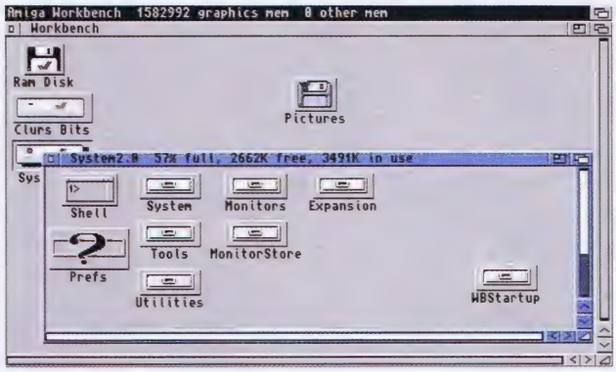
The future of any language is never certain – trends come and go all the time. You might be popular one day and forgotten the next – rather like a Stock, Aitken and Waterman track. *AMOS*, which is essentially a BASIC in operation, is now king of the Amiga programming languages, but who knows how long it can stay at the top? Someone may release a new programming language which knocks *AMOS* from its perch – and the higher you get...

Personally, I rather doubt that scenario – I suspect that *AMOS* will grow and grow. Eventually perhaps the balloon will burst, but for the foreseeable future at least, *AMOS*'s destiny is secure. The reason for this is quite simple – *AMOS* is easy to learn, fast enough to be adequate for many purposes, and cheap.

Coming in a close second in the Amiga programming language stakes are going to be the more practical and traditional professional languages like Assembler and C. At the top of this pile will be the ever-popular Devpac series and SAS C. HiSoft's C interpreter could shake up that lot before too long though. Below those are the fringe languages such as Pascal, Modula II, Oberon (all designed by Nicholas Wirth) plus other oddities like FORTH, LOGO and APL.

At the same time, let's not forget the ARexx influence. Mike Cowlishaw's strange 'king' of languages for the IBM mainframes of years gone by has come to the Amiga in fine form. Translated for the Amiga's multi-tasking environment by William Hawes, ARexx now comes bundled with Workbench 2 and (unlike AmigaBASIC before it) cannot be ignored as a passing fad.

A lot of copies of ARexx are already out there and publishers have been quick to realise the importance of the system. Although it is admittedly a slow, interpreted language, the remarkable thing about ARexx is that it can be used to extend the functions and features of any application which supports it – and that offers a potential no other language can afford to ignore. If you were a betting man, you could put money on the concept that the next version of AMOS will not only include ARexx support, but will probably serve as a dummy ARexx host – now *there's* an idea.



Workbench 2 brought ARexx to a much wider audience, making it a language hard to ignore.

COMPANY CONTACTS

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C...

SAS/C: a traditional implementation of the C language – and no, you don't have to join the SAS to use it.

The lads at HiSoft have had a total brainwave and reverse-engineered C. Just as BASIC is classically an interpreted language, C is compiled. Compilers take time to learn and are tricky to use, so HiSoft has come up with an unusual and provocative solution: a C interpreter. This cuts out all the faffing around with the "compile, [syntax debug], link, run, debug" cycle. Well done, HiSoft, for thinking this one up in the first place, having the guts to do it and pulling it off. It deserves to do well in education and is a 'must try' for novice C programmers everywhere. It should be released some time in 1993 – exactly when is not yet known.

If your idea of C is more traditional, then the launch of *SAS* (aka *Lattice*) *C v6* will be good news. Just some of the many new features: Workbench 2 support, improved global optimiser, message browser, on-line help and Amiga-Amiga cross development. *SAS/C* should be available by the time you read this and costs a professional £320.

ASSEMBLER...

Few things are as mysterious to the average person as assembly language, but *Devpac 3* does it best.

HiSoft's *Devpac* has always been by far the best assembly language development system for the Amiga, and Francois Lionet is still using *Devpac 2* to code *AMOS* and *AMOS Pro* – despite a brief defection to *Argasm*, about which he comments: "*Argasm* was fast, but it had too many bugs." It still lacks a debugger, which is rather like driving a Ferrari without brakes... so *Devpac* remains king.

Sales of *Devpac* have exceeded 25,000 copies across the globe – staggering for an assembly language programming system. *Devpac 3.00* was released in January 1992 to universal acclaim. The whole system was revised and updated with a new Workbench 2.0 look and feel interface. Several new processors were added to the assembler, the kludgey editor was replaced with a spiffing multi-window affair (the only thing previous versions lost to *Argasm*) and the debugger was further improved – if that was possible. Best of all, *Devpac 3* is easier to user and faster than ever before.

& PASCAL

Pascal may never become the language of choice on the Amiga, but HiSoft's *HighSpeed Pascal* is worth trying.

C, Assembler and BASIC have always dominated Amiga programming, but there are a lot of other systems that should not be ignored. Nicholas Wirth's Pascal is one example. Borland made the language famous in the PC world with *Turbo Pascal* and now HiSoft brings the system to the Amiga. Using Borland's *Turbo Pascal 5* model, *HighSpeed Pascal* features a single-pass compiler with performance exceeding 20,000 lines a minute.

Code should be fairly portable between computers since HiSoft has implemented a graphics system based on existing BGI conventions. This gives programmers access to graphics without actually calling specific ROM calls. In-line assembly and a *SAS/C*-compatible linker are also supplied, offering a vast range of programming possibilities. The Debugger supplied is based on the powerful system found in *Devpac 3* and, although operating at assembly level, offers unsurpassed power. A safe alternative to conventional languages.

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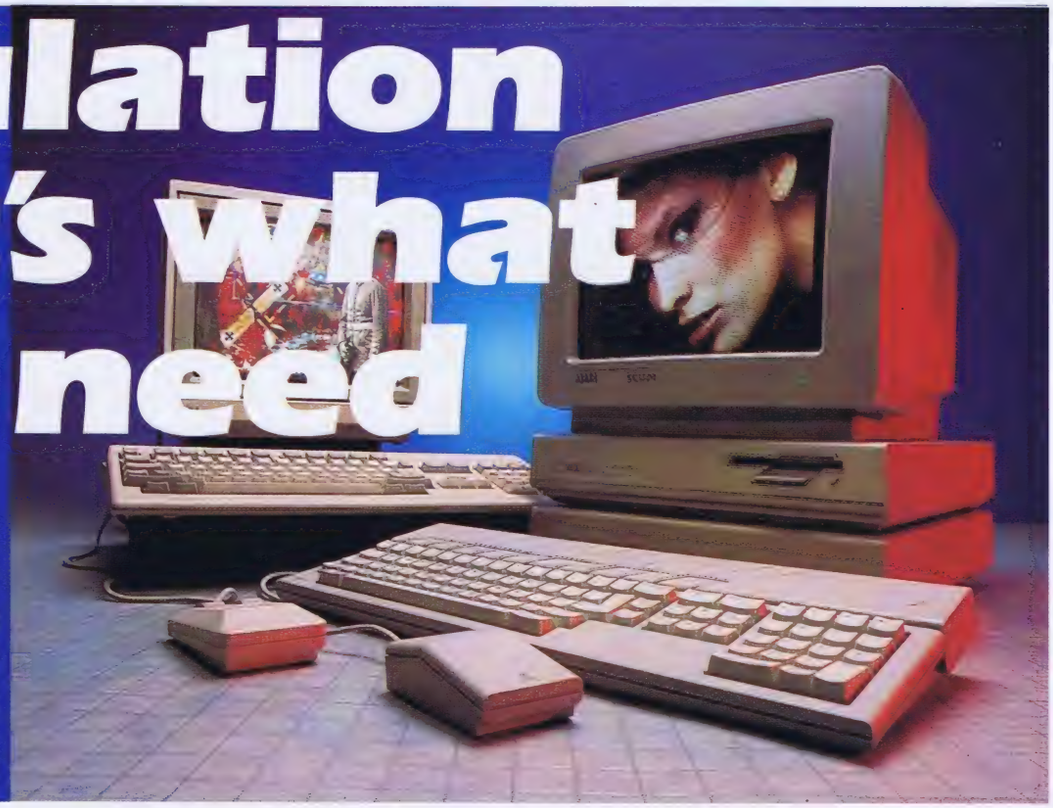
Emulation that's what you need

The Amiga has plenty of software but craves for more. **Mark Smiddy** surveys the latest means of running software designed for other computers...



EMULATION IS A technique by which one computer is imitated by another, and 1992 has been a year of changing fortunes for the limited number of players in this specialist field.

The field is split four ways: Three of these are (1) KCS in Holland which is constantly battle it out with (2) Vortex in Germany for the status of topdog in PC emulation while (3) Commodore sits on the fence and appears to do very little.

The fourth, much smaller slice of pie is dedicated to 'everyone else': Readysoft, and newcomer Utilities Unlimited both have Apple Macintosh emulators.

80386SX (PC-AT)

In 1992 Vortex announced the Golden Gate – a follow up to the successful AT-Once and AT-Once+ 286 PC emulators.

Golden Gate is basically a PC card based around an Intel 80386SX processors running at 25MHz. With 512K RAM and its own IDE (hard disk) interface it sounds great, but at about £500 – without a hard drive or decent video – things start to turn sour.

Whichever way you look at it, getting the best from the Golden Gate is going to cost real money. For instance, most true EGA (Enhanced Graphics Adaptor) and VGA (Video Graphics Array) modes cannot be displayed on a standard Amiga monitor. This means that you'll need a VGA card plus a VGA or multi-scan monitor.

So just how good are 386-based PCs? Arm your Amiga with an emulator and you can find out.

Let's pretend... equipped with the correct card, your Amiga can be fooled into thinking that it's an ST. And this opens up whole new ranges of software to you.

Even if you shop around, this sort of kit can cost £400 or more. Interestingly though, a new piece of hardware appeared recently which claims to display VGA on a standard TV.

However, for a little more you can get the real thing: hard and floppy disks, Super VGA and so on, all built to your own specification. There is little doubt the Golden Gate will sell during 1993, but in what numbers remains to be seen.

If you have a GVP Impact Series II hard disk, then there's an AT-Once PC emulator specially for you.

Much the same applies to Commodore's own 386 PC bridgeboard, and my guess is that financial prudence will force people to look further afield. Let's not forget the 80386SX is a 16-bit machine and has little advantage over the smaller 80286 apart from the option to support multi-tasking.

80286 (PC-AT)

Here again the third-party suppliers have the jump on Commodore, whose own attempt at PC-AT emulation came in the form of the AT bridgeboard: a 1Mb, 80286 system for the A2000 series machines with just CGA graphics handled in software. EGA and VGA could be addressed with PC cards, however.

By 1992 Vortex had already announced AT-Once: an AT emulator which ran from the Amiga's own clock at about 8MHz and AT-Once Plus – a 16MHz PC-AT daughterboard with space for an 80287 maths co-processor. Vortex's problem was, and still is, the software does not match the hardware in terms of quality or sophistication. Early in 1992, Dutch-based KCS had demonstrated 16-colour EGA and VGA although the software didn't start shipping until much later.

Vortex still lagged behind with only partially compatible (IBM legal) monochrome EGA and VGA. During this time Vortex coined a deal with hard disk experts GVP to supply a special version of AT-Once to fit inside GVP's famous Impact Series II for the Amiga 500 models.

As this was happening, the A500 was on its last legs as far as Commodore was concerned. Progress, as with everything had pushed the machine into the realms of obsolescence.

The time-honoured tradition of through-soldered components had not proved reliable enough and the machine was replaced by a new surface-mounted design, launched as the A600. This put paid to the daughterboard mounting method of emulations used by AT-Once (and many other cards too) and almost killed a thriving industry overnight.

The A600 carries the industry standard PCMCIA slot which might support hard disks and some future variant of the GVP AT-Once – but this seems unlikely now.

8088 (PC-XT)

At the other end of the hardware spectrum lies the KCS Power PC board. Viewed by some ▸

EMULATION – THE PROS AND CONS

THE CASE AGAINST...

The first kind of emulation is software-only, like the BBC and C64 emulators available for the Amiga. Software emulators are almost inevitably slow and clumsy, simply because the programs for, say, a BBC computer are meant to be run on a BBC's central processor: not on an Amiga's 68000.

So the other option, as used by the Macintosh and PC emulators for the Amiga, is to use a combination of hardware and software, the hardware being based around the actual CPU of the machine being emulated. Since the code is being executed by a real processor, it runs at full speed. But there is still a problem.

Because all the rest of the computer, apart from the CPU, doesn't match up (you have a PC CPU, but an Amiga everything else) the software is called upon to handle the interfacing and peripheral simulation. The quality of emulation will, therefore, stand or fall by the quality of the software.

These problems affect different emulators to different extents. The most popular emulators are the PC emulators and the PC is probably the most difficult machine to emulate, because it's such a mess: the PC has dozens of graphics modes split over several different standards, many of which are not directly compatible with the graphics handling that is built in to Amiga hardware.

Worse still, few PC programs follow the rules: most avoid the operating system and write directly to the hardware. And since the screen layout is also physically different, every byte written to the PC pseudo screen has to be re-mapped to the Amiga: and that takes time. So you are back to buying a real PC VGA card — and you'll need at least an A1500 to do that. Might as well, buy a hard disk while your on since most PC applications are hard disk greedy. *Oh, hang it – why bother emulating these things at all?*

All the fruit should give the game away here, it's the Apple Macintosh emulator for your Amiga: A-MAX comes highly rated.

THE CASE FOR...

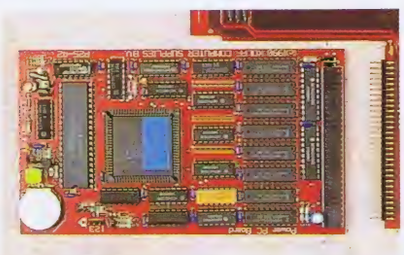
Stretching the pound in your pocket by getting several computers in one is the name of the game: emulators normally cost less than the machines they are emulating. This is mainly because when you buy an emulator, you only buy the guts of a computer: so you're saving the cost of cases, keyboards, interface devices and all the other expensive bits and bobs.

Software can be cheaper too. The most common emulators are for the PC – not because PC emulators are easy to make but because PC software is readily available and, with the exception of some high-end packages, quite cheap too.

Absolute speed of emulation is less important for most PC applications since developers consider an XT as the lowest common denominator. Unlike the A500, the XT is quite a slow machine with limited graphics – so provided an emulator can perform like a fast XT most applications will be perfectly adequate.

But the less obvious consideration is probably huddled in a corner of your bedroom/office/den (call it what you will) already: every computer occupies room. Space for the keyboard, monitor and the case of a second computer will require another desk, more expense and more redundant usage of valuable bedroom real-estate. By emulating one or two computers you get the best of all worlds in the space of one.

A typical Amiga could house at least two PCs (AT-Once and Powerboard); a Macintosh (A-Max); a BBC Micro; and a C64. All for less than the price of an Apple Mac. And apart from those of us lucky enough to be ambidextrous, most people can only use one machine at a time anyway. Yep, you might need to swap files from one to another, but with partitioning of drives you can do that now anyway. *So if you need to use another machine's software, why bother using another machine?*



KCS leads the way in PC emulation with its range of high quality boards. But where's the 486 eh?

as the poor man's answer to PC emulation. In spite of being scoffed at as an XT emulation, the Power PC card has estimated world-wide sales approaching 30,000 units.

Commenting on this great success UK distributor, Jack Kaufman told me: "It's all there. It's simple to set it up, it has a good back-up service and it's widely available..." But we wouldn't expect him to say anything less. Happily though, the board is a fine piece of Amiga equipment, and well worth a look.

KCS's solution is unique. Rather than relying on direct access to the CPU slot (which Commodore didn't recommend) or on the expansion slot (which was designed for the job) it used the 'trapdoor' slot.

The arrival of the A600 dropped most developers right in the mire. Most but not all, and especially not KCS.

Although the design of the trapdoor expansion has changed somewhat – KCS has been able to adapt its design to accommodate this.

As far as the emulation is concerned, KCS has always been way ahead of the competition. It was the first to offer colour EGA and VGA, and although shaky at first, recent bug fixes have made the KCS PowerPC board much more reliable and more usable too. There's still nothing quite like the real thing.

Given the arrival of the A600 and death of the A500 I suspect AT-Once will start to fade away by the latter part of next year, although the GVP variant should be around for a while yet. A600 owners, who are looking for an upgrade path to semi-PC compatibility are limited to KCS' product or a new machine entirely. Given the relative cheapness of the KCS card, this is probably the option many will take. This should also lead to KCS updating the software screen emulation to some variation of 256 colour VGA. Vortex, I suspect, will concentrate more on the Golden Gate, which is a true bridgeboard and the only choice for power users with lots of money and limited desk space.

KCS might not have the PC market completely covered though – a new PC emulator is about to appear which could change all that. *CrossDOS 5*, the latest commercial version of a popular PC file transfer utility, will include a software PC emulation (an earlier version also featured on the Coverdisk of ***Amiga Format*** issue 40).

The newcomer is Emplant – the emulation platform. Utilities Unlimited, producers of Emplant, has already caused a stir with its Mac emulation and promises an 80486 PC version before the year is up. However, Emplant, like *A-Max* and the ST Emulator, is sailing very close to the wind on the legal issue.

More advanced than A-Max II, Emplant allows full colour Macintosh applications but has not been developed to commercial release stage yet. It is not an emulator in the truest sense of the word – it requires users to have Macintosh ROMs. This in itself is quite clearly in direct contradiction of the 1987 Design, Copyright and Patents Act, and Apple will be within its rights to take legal action against anyone using it.

The reason no one has properly cloned an Apple Mac (or an Amiga come to that) is because the respective ROM-based operating systems are far too large and complicated. The PC on the other hand is far simpler, and clone operating systems by Phoenix and AMI are widely available. In the final reckoning, remember this: emulators are by no means an ideal solution. If you need to run power applications the only solution is to get the machine they were intended for.

COMPANY CONTACTS

Golden Gate/AT-Once
SILICA SYSTEMS
1-4 The Mews, Hatherly Road, Sidcup, Kent DA14 1DX
☎ 081-309 1111

Emplant
BITSOFT
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☎ 0908 666265

A-Max II+
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Can the A600 keep alive the Amiga's aspirations as a business machine? **Neil Jackson**, **Amiga Format** reviews editor, thinks the tide of progress should not be held back...

"The A500 had to die"

1992 WAS THE year Commodore killed off the still sprightly A500 and reincarnated it in the form of the 'toy piano' lookalike A600. Cut down seemingly in its prime, the A500's demise may have been the mercy killing which saved both the Amiga and Commodore.

More than three million Amigas were sold worldwide over the six-year A500 lifespan, a fair innings for any high-tech machine. But though popular, it was expensive to build and expensive to buy, especially in a recession.

The A500 had to die; the confusing variations in the breed – in the form of the A500 Plus – were on the verge of looking as embarrassing as Atari's STE fiasco. The cheaper, more reliable A600 breathed life back into the Amiga, but at the same time took some of the character away too. The tradition of Amigas which you could expand to the *n*th degree was lost.

Only the boxy A1500 (itself supporting the remnants of the fast-expiring A2000) and the super-fast, super-pricey A3000 were left to prove you could make an Amiga system to reckon with. But compared to the level of the A500 population, the designated 'expansion machines' were little fish – the A500 was still the thing to have.

So with the passing of the A500, we're left with the diminutive A600 to carry the Amiga legend into the future. But is it up to the task? Without an expansion port and instead a new (and as yet unproven) smart card slot, can the A600 really make as bold a mark as its predecessor in the serious market? Time will tell, but probably not at least until summer '93.

Meanwhile, plenty of additions to the range of serious packages and expansions continue to be made for the old A500. Software and hardware developers know that machine is still the one to support – most business users' systems are based on it. Of course the high-end machines have a following, but not one large enough to dent the pre-eminence of the A500.

> "...no foreign format is safe from the Amiga, and few of its rival machines can bridge the gap... The Amiga can handle being pushed and squeezed into places it wasn't designed to go, but conversely, it's difficult to emulate"

For the business user with an A500-based system, there have been some excellent new products which improve the Amiga's position as a 'business' machine, but probably not in the businesses Commodore originally intended. Because the A500 is not generally considered a rival to the businessman's usual choice (the IBM PC), it's more difficult for it to cut much ice. But A500 users know that it's just as capable with the right add-ons – there just isn't the same level of business support.

That in itself could be a good thing. The lack of a vast range of business software at inflated prices and of variable quality means there is a more streamlined, more dependable albeit smaller range available. Junk products just don't survive on the A500, whereas they proliferate on the PC.

There are some excellent spreadsheet programs from the American big-guns Gold Disk, though there are few decent accounts packages to help you with your profits and loss tot-ups. 1992 saw the introduction of Michtron's *Personal Finance Manager Plus*, an accounts package aimed at home users, but equally as viable for small business users. This type of business user is the most common – single-trader operations, often run from home, or a small office – and for them, the Amiga is ideal. For them, the kind of low-cost, high quality programs like Europress's *Mini Office* and Digita's *Wordworth* prove that you can make it in the business world without relying on ultra-expensive PC software. An Amiga will balance your books and take a letter just as quickly, and often quicker thanks to its multitasking capabilities.

It's possible that many people turn to the PC because of its hype and its 'everything's compatible' myth (which we all know is impossible), and because it's fashionable. Even an Amiga-owner can benefit from the PC – the Amiga proved its versatility again this year, thanks to Commodore's excellent new 386 Bridgeboard, which enables you to plug PC cards straight into an A2000. High-end users can now take their pick from most of the major 'rival' formats. With new programs like *CrossDos 5*, reading PC disks on an Amiga is as easy as reading them on a PC. With GVP's new MiniSlot PC286, A500 owners with a GVP hard drive can turn their Amigas into fully functioning, if low-spec, PC-compatibles. Even the Apple Mac's territory isn't safe from the Amiga now that A-Max 2 Plus is here.

It seems no foreign format is safe from the Amiga, and few of its rival machines can bridge the gap. Perhaps that says more for the Amiga's flexibility than anything else. The Amiga can handle being pushed and squeezed into places it wasn't originally designed to go, but conversely, it's difficult to emulate.

Is that why it's such a favourite with programmers? It's certainly the best machine you can learn on. With the power of multitasking, which cuts out much of the time you waste waiting for one program to finish before you start another, the Amiga is way ahead of the competition. The PC's only just learning how to do it (and having problems with it), the Atari ST can't do it, the Falcon's got a lot to prove, and the Apple Mac's only just got the hang of it. The Amiga has always been a multitasking machine, and at a price that budding programmers can afford.

So the Amiga's been the mascot of many a first-time programmer. An easy machine with plenty of gutsy power. Why else do you think its closest rival, the ST, died so quickly? And now 1992 sees a new wave of programming software to help developers take the Amiga further into the future. If Europress's *Easy AMOS* opens the door to top-quality, powerful programs that are as simple as BASIC, then *Professional AMOS* takes you right to the top of the stairs. HiSoft's new BASIC should just make it out in time to be a 1992 product, and it also promises to unleash even more power from the dynamic beast we know and love.

The Amiga's a special machine. It may be changing and we may be getting a few jitters wondering about compatibility, upgradability and whether we will still be able to recognise our machine in a few years' time. But there's more life left in the Amiga. 1992 was the year of streamlining and consolidation, as Commodore tightened its belt to fight the recession. But the software developers and the peripheral manufacturers were still riding on the crest of the wave that Commodore made when it pushed the boat out in 1986.

Now it's the A600's (and the A4000's) turn to carry on the Amiga tradition. It's a rich one, where being different is normal, but that's why it's better than the rest. To an outsider, the Amiga is a games machine, but to an Amiga-owner it's also a business machine, a programmer's machine, a multimedia machine, a graphics machine – the works. Six years old, dead, reborn, and it's still ahead of the more expensive pack. Life's full of surprises.

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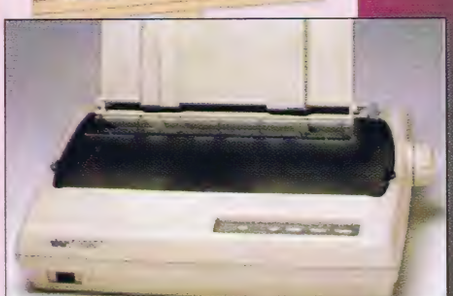

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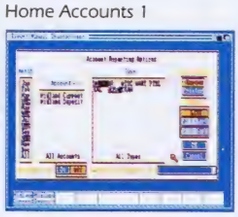

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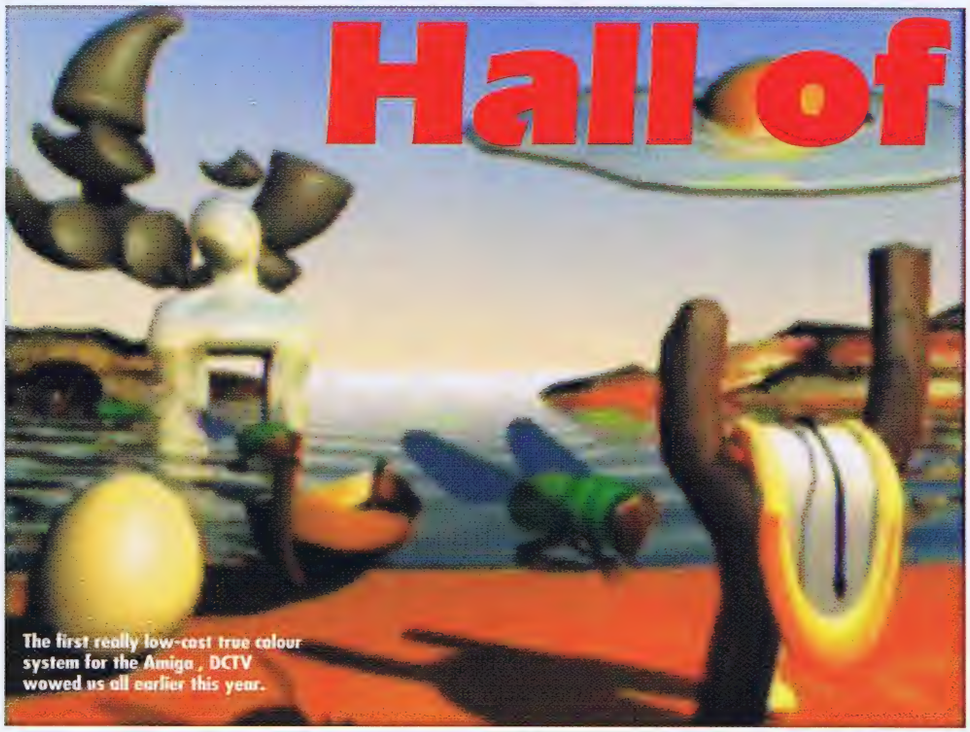


The first really low-cost true colour system for the Amiga, DCTV wowed us all earlier this year.

Hall of Fame

Totally brilliant, or a huge disappointment? The **AF** team tells you which products of 1992 really got them going and the ones that utterly flopped...

THE LAST YEAR has been a great one for new products for the Amiga. From games software to serious hardware, the developers have brought us their wares, and ***Amiga Format*** has always been there, seen them, used them and reviewed them. In 1992 there were so many good products, we decided to compile a list of all the ones which have been really stunning during the year – the sort of games that have taken up most of our social lives, graphics software that made our eyes pop out and incredibly advanced hardware – you know the sort of stuff we mean. Here's the final list...

GORGEOUS GRAPHICS SOFTWARE

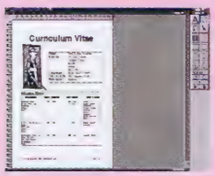
DCTV
DIGITAL CREATIONS **£499**

At under £500, DCTV's hardware and bundled software offer a pseudo true-colour system – it utilises certain features of the Amiga display to create the large palette of colours in a different way to the actual true colour systems. It also works with composite video signals rather than RGB, which some techheads may not like. But the results are darned impressive and it works on a bog-standard A500.

The paint package bundled with it gives many a 24-bit paint package a run for its money, and produces some results which knocked us for six.

Reviewed in issue 31, rated 90%

PAGESTREAM 2.2
SOFT LOGIC **£199**



Packed with powerful functions for the serious DTPer, *Pagestream 2.2* was reviewed head-to-head against *ProfessionalPage 3* in issue 34 and, although the latter was considered to be excellent, *Pagestream* was awarded the ***Amiga Format*** Gold award because it was as good as *ProPage* but cost £50 less.

Reviewed in issue 34, rated 91%

IMAGINE 2
IMPULSE **£269**

Imagine 2 is an incredibly powerful package which enables you to render images using ray-tracing methods and animate them, and output the images in 24-bit form. Only *Caligari* and *Real 3D* come close, but the sheer power, speed and versatility of *Imagine 2* gives it the edge over the competition. Our reviewer Brian said that the package was: "Absolutely chock full with virtually everything you might need." Excellent.

Reviewed in issue 35, rated 93%

VLAB V1.0
MACROSYSTEM **£299**

Video digitisers come and go, but *VLab* grabbed the attention of the ***Amiga Format*** team because of its high quality and relatively low price. The package offers you real-time digitising, which means that your Amiga will continually digitise the pictures which are being fed into it – whereas most digitisers will grab one single frame and store it in memory.

Although it's not as good as it could be, it gets the thumbs-up because it isn't too complicated, and so its price can be kept low. It's very easy to use, and offers some great features – what more do you want?

Reviewed in issue 35, rated 88%

VISTAPRO 2
VIRTUAL REALITY LABS **£69.95**

On the Coverdisk of ***Amiga Format*** 33, we included a 'Fractal Landscape Generator' program called *Vista* from Virtual Reality Laboratories. Although already popular, interest in the program soared, and so the release of *VistaPro 2* in June this year was welcomed by many readers.

So what's so special about a fractal generator? Well, you've really got to see the results to appreciate how spectacular they are. The original *Vista* enables you to create some beautiful and varied landscapes in low-resolution, even using the special HAM mode. *VistaPro 2* not only enables you to work in much higher resolutions, but also in 24-bit true colour modes using add-on graphics hardware such as Harlequin and DCTV.

Reviewed in issue 35, rated 92%

EXPERT DRAW
HB MARKETING **£69.95**

There are loads of graphics packages on the Amiga, but one area pretty much ignored is structured drawing. *Expert Draw* is a quality method of drawing which works in a similar way to outline fonts in DTP packages, and stores all drawings as mathematical data rather than as a series of bits, or a bitmap.

The advantage of structured drawings over their bitmapped counterparts is that you can change the size of a drawing without leaving any jagged edges (as is the norm with bitmaps). *Expert Draw* is a great package to use for obtaining such drawings because it's easy to use, powerful, and relatively cheap.

Reviewed in issue 35, rated 86%

SCALA MM200
DIGITAL VISION **£464.12**

For producing simple graphics and text for presentations, *Scala MM200* is the business! *Scala MM200* enables you to manipulate many forms of Amiga files, such as graphics IFF files and MIDI-based music data, and arrange them into a presentation to suit your needs. It has many powerful functions for whizzy effects such as graphical wipes and animations. You can also control external devices such as laserdisc players, VCRs and MIDI compatible instruments. It's a little expensive, and requires a heavily souped-up Amiga to run, but for the people who can afford it, it's the best!

Reviewed in issue 39, rated 87%

THE GREATS IN GAMES SOFTWARE...

FORMULA 1 GRAND PRIX
MICROPROSE **£34.99**

This game really took the *Amiga Format* staff, and most of its readers (see page 137), by storm in December last year. Glorious vector polygons, loads of options and incredible attention to detail combine in a game which is both challenging to simulation junkies and incredibly fast for speed freaks.

Reviewed in issue 30, rated 92%

JOHN MADDEN'S AMERICAN FOOTBALL
ELECTRONIC ARTS **£25.99**

Bit of a controversial entry, this. Neil argued that its colourful graphics and great gameplay make it a classic among sports simulations, but Damien declared that no American Football game could ever be called a 'classic'. Much heckling ensued from both directions, but the final consensus was that included it would be, and indeed here it is.

Reviewed in issue 33, rated 94%

EYE OF THE BEHOLDER 2
SSI/US GOLD **£35.99**

A Dungeons & Dragons style role-playing adventure which pits you and a team of adventurers in a darkened tunnel, against monsters who are waiting for you around every corner. Another controversial entry, mainly because it's a sequel and it doesn't improve greatly on version 1. It is a superb game, but there was a feeling that it hasn't got lasting appeal. However, the continued interest from readers writing in to Helping Hand seemed to prove otherwise.

Reviewed in issue 35, rated 91%

LEGEND
MINDSCAPE **£30.99**

Another fantasy role-playing game, but this time viewed from an isometric 3D angle. Your quest is to rid the land of Trazere from evil, and find out what's happened to the King. Not an original story, but a cleverly executed game which is easy to play and just as difficult to master. Lots of late nights the *Amiga Format* crew at the time of its release, and some are still burning the midnight oil.

Reviewed in issue 36, rated 88%

MONKEY ISLAND 2
LUCASARTS **£37.99**

What a scorcher! If you haven't heard of *Monkey Island* then where have you been for the past two years? Several members of the team spent two-weeks solving the game, and it completely took over their lives. See what you thought on page 136.

Reviewed in issue 36, rated 95%

SENSIBLE SOCCER
RENEGADE **£25.99**

This is miles better than *Kick Off 2*. Controversial? Yes. As you may have gathered, we like this game and devoted a hefty amount of time to playing it. After

...AND THE GAMES THAT DISAPPOINTED

EPIC
OCEAN **£29.99**

After more than two years in development, *Epic* was finally released in July to a universal panning by the critics. Excellent graphics and a great introduction don't help an ageing sci-fi shoot-em-up which is unbelievably easy to complete. Maff called it: "A lacklustre game that falls pitifully short of its original aim."

Reviewed in issue 37, rated 34%

MYTH
SYSTEM 3 **£25.99**

Another game which was built up and hyped for several months, but failed to live up to expectations. A scrolling beat-em-up with excellent graphics and nice sound, *Myth* had poor controls and displayed a distinct lack of originality. Not a contender for software product of the year.

Reviewed in issue 37, rated 58%

AQUATIC GAMES
MILLENNIUM **£25.99**

This is the recently released follow up to the highly successful and completely brilliant James Pond series of games. After the second, *Robocod*, everybody wondered if the *Games* were going to be even better – but, sadly, they weren't.

Reviewed in issue 40, rated 84%

LOTUS 3
GREMLIN **£25.99**

Like *The Aquatic Games*, this has an excellent pedigree, and great things were expected. But it was too ambitious. The RECS facility which enables you to modify the race tracks was a nice idea, but it didn't warrant a third game. Also Gremlin decided to remove the multi-player option, which we considered to be one of *Lotus 2*'s greatest features. The game also slows down in two-player mode.

Reviewed in issue 40, rated 76%

EMULATORS

A-MAX II PLUS
READYSOFT INC **£324.99**

A-Max ii is a hardware/software combination emulator which can be installed on to an Amiga (A1500+). Although till requiring the Mac ROMs, which are now freely available, the package managed to run every program we tried, including our main DTP package, Quark*XPress*. It was a little slower, but not annoyingly so, and much quicker than Amiga DTP packages.

Reviewed in issue 38, rated 91%

CBM 386 BRIDGEBOARD
COMMODORE **£465**

This is a powerful PC emulator which plugs into the Amiga A1500+. Fitted as standard with 512K of memory, it can have up to 8Mb for use by PC software. It's pretty difficult to get it up and running, but once you're there you can emulate away to your heart's content, and you should be able to run most PC software. If you're serious about PC emulation, this is by far the best choice.

Reviewed in issue 37, rated 86%

PERIPHERALS

GVP A530 HARD DRIVE/ ACCELERATOR COMBO
GVP **£749**

GVP is well known for producing high-quality peripherals, but none is quite as incredible as the A530. For £749 you get a 40MHz (very fast) 68030 (powerful) CPU, 120 Mb hard drive, 1Mb of 32-bit RAM and space for a 68882 maths co-processor. An amazing combination which stunned us all, mainly because it plugs into an A500 to produce a Super Amiga.

Reviewed in issue 38, rated 94%

EPSON GT-6000 SCANNER
EPSON/ASDG **£1,175**

The Epson GT-6000 flat-bed colour scanner, although expensive, was considered by the ***AF*** team to be a superb piece of equipment which is also bundled with a superb piece of software, compatible with the image processing package *AdPro 2*.

It was reviewed by Marcus, who summed up: "The image-quality matches that of other scanners, but its ease of use, speed and, most notably, price are without match in the Amiga market."

Reviewed in issue 38, rated 98%

CANON BJ20 BUBBLEJET PRINTER
CANON **£299**

For far less then the cost of a laser printer, similar results can be obtained using the relatively recent bubblejet technology. One of the latest incarnations of that technology is the BJ20 from Canon.

The BJ20, at around £300, is considered to be the best all-round printer on the market – which is something when you consider the competition.

Reviewed in issue 39, rated 95%

playing the newer game several times and then going back to *Kick Off*, some of us (Nutts) found we'd got used to the speed of *Sensible* and found *Kick Off* too fast! *Sensible Soccer* is a superb footy game, especially in multi-player mode. The major let down is the fact that you can't trap the ball.

Reviewed in issue 36, rated 91%

WIZKID
OCEAN **£25.99**

The second Sensible Software release to make it into this hall of fame, *Wizkid* is the sequel to the now aged (but still playable) *Wizball*. Nine out of ten ***Amiga Format*** staffies (well, Marcus anyway), described *Wizkid* as 'weird' and 'bizarre' , and it was certainly created by some of the most surreal minds in computing history. With incredibly colourful graphics and great gameplay, *Wizkid* goes down in the history books as, well, *Wizkid*, I suppose. Marvellous.

Reviewed in issue 37, rated 93%

CIVILIZATION
MICROPROSE **£34.99**

There have been many god games in the history of the Amiga, such as *Sim City* and *Populous* 2, but Sid Meier's *Civilization* has shot to the top of most people's list of favourite games. It puts you in charge of new races of people on the Earth, from the beginning, when they have no skills and little intelligence, to the Space Age when they can send rockets into deep space. See page 137 for your opinions on this game.

Reviewed in issue 38, rated 94%

ZOOL
GREMLIN **£25.99**

A recent addition to the scene, *Zool* is an extremely fast-scrolling shoot-em-up cum platform game, which places a ninja from the Nth Dimension in six different worlds filled with alien beasties and a plethora of puzzles. The graphics are brilliant, with an incredible use of colour throughout.

And the gameplay? Well, let's take a quote from Marcus' original review: "Possibly, no definitely, the most exciting game ever seen on the Amiga, which is itself the most exciting computer ever. Which means, if I've done my sums right, that *Zool* is the... roll of the drums... the most exciting computer game ever."

Reviewed in issue 39, rated 95%

PUTTY
SYSTEM 3 **£25.99**

After more than a year in development, and following a name change, *Putty* finally arrived in mid September to a mixed reception in ***Amiga Format***. Like *Zool* it has stunning graphics, and amazing sound effects, but it's more thoughtful than *Zool*, and slower to play.

It's one of those games that takes a while to get into, so anybody who just spends 10 minutes playing it will not be grabbed. Play it for any length of time, though, and it can be incredibly addictive – as some members of the team found to their cost. Even though it's basically a platform game, it's incredibly original and playing it is both fun and challenging. Nutts reckons it's the best game on the Amiga.

Reviewed in issue 40, rated 95%

MUSIC GEAR

MIRACLE PIANO TUTOR
SOFTWARE TOOLWORKS **£299**

While the Amiga has enabled many non-musicians to produce music, via MIDI sequencers, samplers and tracker programs, the Miracle Piano Tutor was the first of its kind to attempt to teach you the rudiments of music theory. It also tries to teach you to play the piano.

For £299, the package is amazing value. Using the full-size keyboard supplied, you are taken through all aspects of music theory from basics to advanced levels. A great feature is its 'intelligence', which it uses to decide the speed and difficulty of the tuition – if you make a mistake, the program will make sure that you learn the point before it moves on to something more difficult. Superb.

Reviewed in issue 32, rated 93%

KCS 3.5 LEVEL 2
DR T'S/ZONE DISTRIBUTION £279

The original version of KCS was the first real attempt at producing a professional-quality sequencer for the Amiga. Although quality programs such as *Music-X* and *Sequencer One* were already available, KCS and the latest version (V3.5 Level II) are the only ones that are aimed at the professional end of the market as well as the amateur. £280 may seem quite expensive, but it is excellent value and it's really powerful and reasonably easy to use.

Reviewed in issue 29, rated 92%

PROGRAMMING

EASY AMOS
EUROPRESS SOFTWARE **£34.95**

While the original version of *AMOS*, the amazing programming language for the Amiga, wowed us all at ***Amiga Format*** because of its great power and flexibility, some users found it a little difficult to use. The producers, Europress, realised this and so *Easy AMOS* was born, a beginners' programming language for the Amiga.

Although *Easy AMOS* uses a similar frontend to *AMOS*, *Easy* takes a much more user-friendly approach to programming, so even the novice Amiga user can get to grips with it in no time at all. The superb manual, the ease of use, the low cost, the large number of features and the highly polished presentation go together to make a really incredible games creator.

Reviewed in issue 34, rated 92%

UTILITIES

CROSSDOS 4
SILICA SYSTEMS **£29.95**

The latest incarnation of Consultron's program which enables you to read and write to either PC and ST format disks using a standard Amiga. You simply run *CrossDos*, or install it on to your hard drive, and you can use a disk of a different format as though it were an ordinary Amiga disk. We were so impressed with it that we now use it regularly, and we also blagged it and put it on our Coverdisk the following issue!

Reviewed in issue 39, rated 85%

DIRECTORY OPUS
INNOVATRONICS **£39**

This is a real stonker of a program. As with *CrossDos*, many of us here in the ***Amiga Format*** offices use *Directory Opus* on a regular basis. It is basically a good disk and file management system which enables you to control all aspects of the Amiga CLI by using your mouse. Yes, it has been done many times before, but never in such a comprehensive and easy-to-follow way. Buy it now – we did and we haven't looked back since.

Reviewed in issue 30, rated 89%

GAMES HARDWARE

LOGIC 3 STEERING WHEEL
SPECTRAVIDEO **£29.99**

Very Heath Robinson-esque in concept, the Logic 3 is an amazing controller for all games which require an analogue input (*F1 GP, Mansell, F-15 Strike Eagle II* and the rest). It's basically a steering wheel, with no external support, and some innovative circuitry inside which tracks the rotation of the wheel. Used in conjunction with the QuickJoy foot pedals you can really believe you're in a car.

Not reviewed

CHEETAH BUG
CHEETAH **£14.99**

The Bug was a revelation when it was released because it was a joystick that combined three great features of other joysticks all in one unit. It has ergonomic styling – you can comfortably hold it in your left or right hand, and operate the buttons and stick with the other; robustness and responsiveness – it's tough, accurate and suits most types of game. Definitely the one to have.

Reviewed in issue 29, rated 92%

Readers Poll

Here's the moment you've been waiting for: the results of the **Amiga Format** Readers Poll. Here are the products you've decided are the best of the year. And, you know, we agree with you...

BEST GRAPHICS

DELUXEPAINT IV
ELECTRONIC ARTS **£89.99**

The most popular paint package on the Amiga, *DeluxePaint*, got better with the launch of this package. Not only does it enable you to work in the Amiga's special HAM mode, but it will also perform special functions such as metamorphosis which are normally only found on dedicated graphics hardware.

DELUXE PAINT III
ELECTRONIC ARTS **£79.99**

For years *DeluxePaint* has been an incredibly popular package on the Amiga, and *DPaint III*'s inclusion with the Amiga bundles has made it the most popular of all. Without a doubt the most feature-packed paint package (aside from *DPaint IV*) on the Amiga, it's a joy to use.

SPECTRACOLOR
OXXI-AEGIS **£77.54**

A fully-featured paint package that enables you to paint and animate in HAM mode using up to 4,096 colours. It's a reworking of the earlier paint package *Photon Paint 2*, and offers incredibly powerful features. A viable alternative to *Deluxe Paint IV*.

PHOTON PAINT 2
MICROILLUSIONS **£78.22**

Now discontinued (replaced by *SpectraColor*), it combines HAM and powerful special effects to create great pictures and simple animations. Good brush-wrapping and light-shading techniques.

VISTA PRO
HB MARKETING **£69.95**

Enables you to create beautiful and varied landscape patterns in any of the Amiga's resolutions, including HAM mode. It can operate in true colour, making use of a 24-bit graphics card if you've got one.

BEST GAME

MONKEY ISLAND 2
LUCASARTS/US GOLD **£37.99**

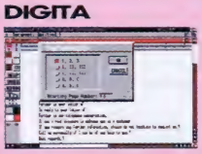
The brilliant graphical adventure from LucasArts Games, which has received universal acclaim from critics since its release in June. Cartoon-style graphics, excellent interactive sound, wry humour and some incredible puzzles go together to form a game which it is impossible to dislike.

FORMULA 1 GRAND PRIX
MICROPROSE **£34.99**

Most people, including ***Amiga Format*** staff, consider this to be the best racing game they've ever seen. Two modes are available. The first offers breakneck speeds with relatively simple graphics, while the second features incredibly detailed graphics with a slightly slower game. Brilliant.

BEST BUSINESS

WORDWORTH 1.1
DIGITA **£129.99**



One of the best document processors on the Amiga. Offers text flow around graphics, a 116,000 spelling checker and thesaurus. A tad slow on earlier machines though.

PENPAL 1.3
SOFTWOOD/HARWOODS £49.99

Incredibly user-friendly. An internal database is supplied, and there's a drawing facility plus IFF files are importable too.

PROTEXT 5.5
ARNOR **£152.75**

A no-frills word processor many consider to be the best on the Amiga. Extremely fast, with loads of facilities including a great spelling checker.

MINI OFFICE
EUROPRESS **£59.95**

A quality suite of programs. Includes a spreadsheet, a word processor , a basic flat-file database, a graphics creator and a disk management utility.

HOME ACCOUNTS 2
DIGITA **£54.99**

Easy to use finance manager, that helps you keep track of your spending. Tells you when to pay your bills, and works out your regular balance.

BEST HARDWARE UPGRADE

GVP HARD DRIVE
GVP **VARIOUS**

Great Valley Products is renowned for producing some of the best quality hardware for the Amiga, and it is especially well known for its range of hard drives. Available in various different configurations for the whole range of Amigas, these are generally a little more expensive than their competitors but the sheer quality of them makes up for that.

PHOENIX ROM SHARER
PHOENIX **£24.99**

Because some older games and other software won't run on the new Kickstart 2.04 ROM, Phoenix developed this little device which enables you to plug both types of Kickstart ROM into your Amiga 500, 600, 1500 or 2000. Once installed, you can switch between the two as you often as you wish, and get all the benefits of the new Kickstart while still being able to run all your old software. Great idea – from Phoenix – which has been really well done.

1MB MEMORY UPGRADE
CALCULUS **£25**

Considering that it was only a few years ago that 500K seemed like such a mammoth amount of RAM for a computer to have, the sheer power of the Amiga has meant that it just isn't enough for many of the tasks that you can put your Amiga to work on, and so most owners have now upgraded to 1Mb. An upgrade can be obtained for as little as £25, and will enable you to load far more software, such as many recent games, ie *Civilization*.

GVP A530
GVP/SILICA **£749**

The A530 hard drive is one of the latest from GVP, and is the most impressive yet. Not only does it contain a 120Mb hard disk, it also has a 40MHz accelerator board with a 68030 CPU. Makes your Amiga bomb along like there's no tomorrow, and it plugs into an ordinary A500.

A570 CD-ROM DRIVE
COMMODORE/CALCULUS **£349**

A long time in development, the A570 was originally meant to be launched at the beginning of 1992, but it didn't actually arrive until September. The CD-ROM drive is a plug in box for the A500 which enables you to load CDTV software. You can also play ordinary music CDs as well as the forthcoming CD+G (music and graphics) and CD+MIDI. Although the current level of software for the beast is fairly low, the stuff that is due to come out soon should be pretty mind-blowing.

SENSIBLE SOCCER
RENEGADE **£25.99**

What a surprise that this is in the Top 10! *Kick Off 2* has been most people's favourite game for the past couple of years, and although it's still popular many gamers are now turning to *Sensible* for their footballing fantasies. Great graphics and sampled sound are just two of its winning features.

CIVILIZATION
MICROPROSE **£34.99**

The strategy game many consider to be the best. You're put in charge of a race of people who you guide from their beginnings through to the Space Age. You must negotiate famines, earthquakes and other Earthly quirks.

LEMMINGS
PSYGNOSIS **£24.99**

Released in March 1991, but *Lemmings* has remained popular ever since, and is without a doubt the game which is most associated with the Amiga. Guide the lemmings as they wander aimlessly through different worlds, and use their skills to get them through alive.

ZOOL
GREMLIN **£25.99**

Incredibly, *Zool* had only been released for about a month before our survey, and yet here it is – sixth in our list of top games. Super-smooth graphics, sampled sound effects and great gameplay ensure that *Zool* will remain popular for some time to come.

POPULOUS 2
ELECTRONIC ARTS **£29.99**

This God game was released at the beginning of the year, but still remains popular with Amiga gamers today. You play a powerful Deity, who controls the very elements of the Earth such as wind and rain, and must try to make all the Earth's inhabitants worship you. All budding megalomaniacs should kiss their weekends goodbye!

EYE OF THE BEHOLDER 2
US GOLD **£35.99**

The sequel to one of the best RPGs ever, *EOTB2* is

even better than the original. Beautifully drawn graphics, a great control system and excellent puzzles spread over 25 levels, make a game which will keep your cerebral skills taxed for months.

LOTUS TURBO CHALLENGE 2
GREMLIN **£24.99**

This game again manages to improve greatly on the original, with better graphics and more fluid control. The variety of courses has been extended to cover a whole range of weather situations – each of which is extremely realistic.

JIMMY WHITE'S SNOOKER
VIRGIN **£29.99**

This game takes a new angle on the tired old computer snooker formula, and manages to create a simulation which is almost perfect in every way. It has everything you need – fast, smooth graphics, a myriad of controls and realistic cueing action, and couldn't be more realistic without having Len Ganley standing in your living room.

BEST PERIPHERAL

NAKSHA MOUSE
SILICA **£29.94**

It's been around for a while, but is popular because of its quality and its accurate movement. Supplied with a mat, holder and a copy of *Operation Stealth*.

CANON BJ10
CANON **£299**

The predecessor to the BJ20, it uses bubblejet technology which produces a print quality that is very similar to a laser but far less expensive.

PHILIPS CM8833 MK2 MONITOR
PHILIPS **£229.99**

Undoubtedly the best single-scan monitor currently available for the Amiga. Brilliant picture quality and excellent sound definition set the standard for others to try to match.

CITIZEN SWIFT 24
CITIZEN **£573**

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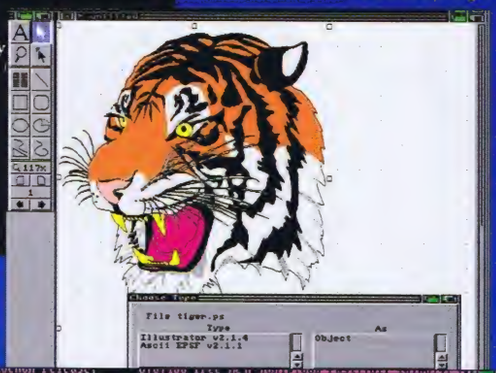

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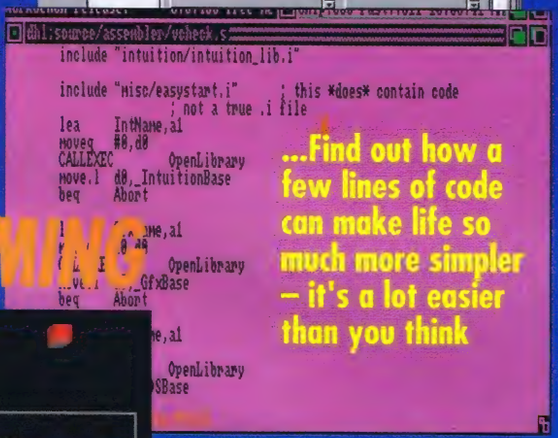

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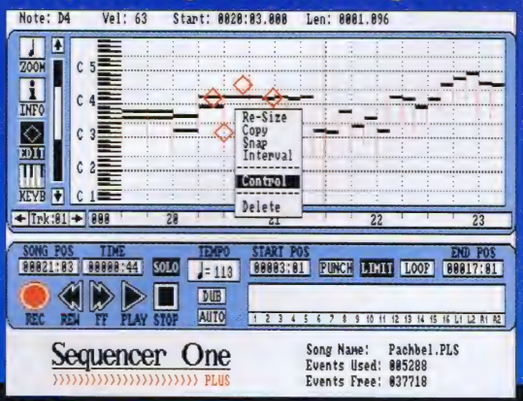

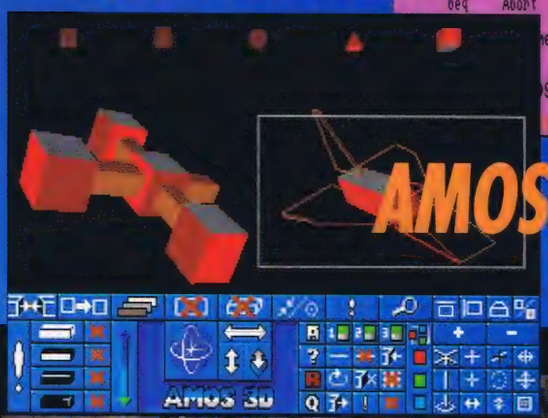

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IFFY IMPORTS

Could you please tell me how to import standard IFF pictures into GFA Basic?
Paul Skippings
Norfolk

The easiest way is to convert the IFF picture to an image structure and use that. The GFA demo program called IFF-/to-BOB.GFA does these translations. For all the details get a copy of AS 10 and read the GFA BASIC article.

And our at-a-glance Product Locators – All an Amiga user could need!

EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT YOUR AMIGA [WELL, ALMOST...]

Questions, questions, questions. Well, we did ask you to send in any question you've ever wanted to ask about the Amiga all those many moons ago in **Amiga Format** issue 39. So the next few pages are packed with answers and solutions to your queries on the Amiga, CD and CDTV, games, programming, AmigaDOS and Workbench, and even good old **Amiga Format** itself. Jason Holborn is the man with the answers to life, the Amiga and almost everything...

Commodore and the Amiga

Most computers have a fairly mundane life story, but the Amiga has a rich and fascinating past. From the letters we've received, it's obvious that you're all very interested to know a whole lot more about it...

Q When was the first Amiga home computer actually launched?

T Weston, Sittingbourne, Kent

A The first Amiga that Commodore launched was the A1000, a machine that doesn't look too dissimilar to the Amiga 3000s we have today. It was launched in 1985 and cost a whacking great £1,700 for a single-drive machine with a colour monitor. It came with 256k of RAM as standard (although later machines were upgraded to 512k), a separate keyboard, Kickstart and Workbench 1.1. The A1000 didn't actually have a Kickstart ROM, instead it used a very clever system called WOM (Write Once Memory) that loaded Kickstart in from disk every time the machine was powered up. This was necessary because the early Amiga operating systems were so flaky (it wasn't until the release of Workbench 1.2 that the Amiga became a relatively stable system).

Technically speaking though, the A1000 was not the first home computer version of the Amiga – Commodore actually launched the A1000 as a serious business machine. When the A1000 all but flopped due to bad sales, Commodore dropped the machine and launched the A500 and the A2000, both of which were launched in 1987. It is therefore technically more correct to claim that the A500 was actually the first home computing Amiga.

The A1500 is a bulky machine with plenty of packaging but it's also incredibly upgradeable.

Q Why does the Amiga 1500 come in a box the size of a small house?

Haggis Harris, Montpelier, Bristol

A The great advantage that the Amiga 1500 has over the 500 (and indeed the 600) is its expandability. Instead of having to hang everything off the back of the machine (like the A500), you can install slot-in cards inside the machine therefore saving a lot of desk space. As a result, the A1500 casing has to be big to accommodate all that expansion space. Most PCs are bulky for the very same reason.

Q I bought an A500 Plus last January and I would like to know whether it is possible to upgrade the machine to an A600 or even the new A800 (if it exists!).

Chris Owen, Swindon, Wiltshire

A The only real difference between an A600 and an A500 Plus is the A600's PCMCIA ROM card slot which, I'm afraid, can't be added to an A500 without having to perform open-heart surgery on the poor machine. I'm sure, though, that someone will bring out an adaptor that will enable the A500's 86-pin bus connector to be used as a card slot.

As for the new A800, I'm afraid we still aren't sure whether or not the machine exists, and I doubt it does, let alone whether it will be possible to upgrade to its specification. If the A800 does exist, and it has the double-A chip set and Workbench 2.1, my guess would be that it won't be possible to upgrade an existing Amiga simply because the new double-A chip set is rumoured to be true 32-bit.

Q What will happen to the Amiga range now that the A600 has been launched? Will we still be using floppy disks in the 21st century?

Paul Ng, Swindon, Wiltshire

A Commodore has already announced its plans for a range of new Amigas, although the specification is still (at the time of writing) unknown. My guess is that we'll see true 32-bit Amigas with faster processors ('020 on the base machines and the '040 on the high-end machines), more colours (chosen from a 24-bit palette), high-density drives as standard and improved sound (if not 16-bit, we'll definitely get more channels to play with). Other than that, the future is still uncertain (cue *Terminator 2* soundtrack).

As for your question concerning floppy disks, the simple answer to this is that no-one knows. No-one can really say with any confidence whether we'll still be using Amigas in the 21st century, let alone floppy disks. If Commodore continues its commitment to the development of the Amiga range, I see no reason why we shouldn't be using Amigas in the 21st century though – however, I am quite sure that the machines we'll be using in seven years time will be far more powerful than the Amigas we have today. Who knows, we could be using RISC or even Transputer-based Amigas in the year 2000!

Q What is the specification of the new A2200?

T. LaBonte, Dunstable, Beds

A Although Commodore has announced that the A2200 does not and will not exist, there has been speculation about a new, high-mid range Amiga. Rumour has it that the machine is based on the 68020 running at 16MHz and it uses a 32-bit 'AA' custom chipset offering a palette of 16.7 million colours and a number of new screen modes including a VGA-like 256 colour mode. Rumour has it too that the new 'AA' Paula chip offers four-channel, CD-quality 16-bit sound with 8 and 16 channel 8-bit sound emulation with a Roland digital signal processing chip for greater sound quality. At the moment all this is still 'speculation and hype' (as Commodore's marketing people would say).

Q Why doesn't Commodore have Workbench in ROM instead of having to load it from floppy disk every time you need to use it?

Lee Reynolds, Sale, Cheshire

A Workbench is held on disk simply because it is more flexible than having the whole lot burnt into ROM. If Workbench was to be installed into ROM, Commodore would have to release a brand new ROM every time a new version of Workbench is released (Workbench 1.3.2 is a good example of this). As it is, all Commodore needs to do is to duplicate a new disk and post it off to distributors.

I agree, though, that it would have been nice to have seen a little more of the operating system built into ROM – a couple of the more common CLI commands such as Dir, Copy, CD and Delete would have been a good idea as this would have made the CLI far more useable on a single-drive machine. Workbench 2.04 has a couple of CLI commands built into ROM, but surprisingly commands such as Dir aren't included. How about it Commodore?

Amazing Amiga Fact

The early days of Amiga development were carried out in a room with no windows and very few lights. In fact the most light in the place came from a monitor standing on top of a pile of chips. The development team was so poor at the time that they were refused credit at the local bookshop, and O/S supremo, Karl Sassenwrath, had to bring his own PC into the office.

Q How did they write the Amiga's operating system in the first place? Surely you need an Amiga to write an Amiga operating system?

Simon P Locke, Dartford, Kent

A Operating systems are rarely written on the machine that they are intended for. Instead, systems programmers (these are the people who write operating systems) work on high-powered workstations that can emulate the host machine. Once they've got the core of the operating system up and running, it is then streamed down to the host machine and then the development continues.

The Amiga's operating system was written by a team of programmers working for a company called Amiga Inc (this was even before Commodore had picked up on the great little machine). Each member of the team was responsible for a particular aspect of the Amiga's operating system. Karl Sassenwrath wrote Exec, Dale Luck wrote the graphics and layers libraries and Robert J Mical wrote Intuition (the Amiga's windowing interface).

Q Will the 1.3-based A500 Amiga continue to be compatible with all new software titles now that Workbench 2.04 has been released?

Daniel Adkins, Fareham, Hampshire

A What you have to realise is that only a small percentage of users actually have Workbench 2.04 – the rest of the universe is still using either Workbench 1.3 or even Workbench 1.2. The simple fact is that software companies (especially games publishing houses) would be committing financial suicide if they were to stop supporting earlier versions of the operating system. Because 2.04 is also compatible with 1.3, software developers know that by developing for 1.3-based Amigas they can also sell their wares to 2.04 Amiga owners. I'm sure that we will start to see dedicated 2.04 applications appearing eventually, but these will usually only be very high-powered programs designed for Amiga 3000s.

Q I own an A500 1.3 and I intend to upgrade to either an A600 or an A1500. Which one should I buy?

KJ Rocbuck, Amlwch, Anglesey

A Which machine you buy depends entirely on your needs. If you intend to add a lot of extra bits and pieces such as genlocks, processor cards and hard drives, you're probably better off with a 1500. This is simply because they are far cheaper and easier to expand. If you don't need this facility, then I'd recommend you buy an A600. Question is though, do you really need to upgrade? Unless you really want Workbench 2.0 and the enhanced chip set, the A500 and the A600 are virtually the same.

Q Will the new 32-bit Amiga be compatible with the old Amigas?

Anthony Goddard, Oxford

A On the whole, the new machine(s?) should be compatible with the current Amiga range. Unfortunately, as history shows, there's always a few titles that won't run on new machines, simply because coders don't always follow Commodore's programming guidelines. This was precisely the case with the A500 Plus – although Workbench 2.04 was compatible with 1.3, quite a few titles that employed hardware tricks fell over on the new machine. Serious software such as word processors shouldn't prove to be a problem, but you may find even more games kicking the bucket under Workbench 2.1.

Q Where did Commodore get the name 'Amiga' from?

Simon Hughes, Eastbourne, East Sussex

A As veteran Amiga owners will know, the Amiga wasn't originally developed by Commodore. It was actually the product of a company called Amiga Inc based in Los Gatos, California. When Amiga Inc

Big changes are afoot, and the Amiga will be leading the way, so say hello to the A570 optical drive.

T LaBonte's speculation on the A2200 may not bear fruit, but the 32-bit A4000 is a definite reality.

The much-discussed Amiga 600. Is there really that much difference between it and the 500? Find out above.

started to get into financial difficulties, Commodore stepped in and bought a controlling interest in the company. Amiga Inc was then absorbed into Commodore and the machine was renamed from Lorraine to the Amiga. Rumour has it that the original Los Gatos-based company was named 'Amiga' simply because it allowed the company to be listed before Apple Inc in the phone book!

Q What is the difference between a normal and a high-density floppy drive?
Leslie Hall, High Wycombe, Bucks

A The simple answer to this question is that a high-density drive can pack more information on to a single disk. In the case of Amiga high-density drives (the Applied Engineering drive for example), you can store 1.52Mb of data as opposed to the usual 880K. Rumour has it that the high-density drives used in the new range of Amigas can actually store 1.76Mb. Unfortunately, though, high-density drives cannot use standard diskettes. Instead, you'll need to buy special high-density disks which generally cost twice the price of standard double-sided, double-density disks.

Q Why did Commodore discontinue the A500 Plus and bring out the A600?
Neil Smith, Dundee, Scotland

A Although Commodore would probably deny it, the A600 was released to compete with the consoles. Because the machine uses low-cost SMT (Surface Mount Technology) components, Commodore was able to drop the price of the A600 so that it was more competitive. If you check the circuit board of the A600, you'll notice that it is actually labelled the 'A300', the serial number for Commodore's much reported console-beater.

Q What spec Amiga do you think we'll be using in five to ten years from now? Will we be able to talk to it? Or rather, will it be able to understand me, because I swear at the thing already!
Dan Tarbit Gosforth, Newcastle-upon-Tyne

A Speech-controlled computers are actually already available – indeed, there's actually a speech-control system called *VocRecOne* available for your faithful Amiga, although I'm not sure if it's yet available in this country. Simply by sampling your voice through a standard Perfect Sound 3 sampler, you can assign samples to any CLI script file.

Q Will there be a virtual reality unit available for the Amiga. If so, how much will it cost?
Alex Weiss, Bromley, Kent

A You could argue that the Amiga already has a number of virtual reality products available for it. Take Domark's *3D Construction Kit 2*, for example. It will enable you to create and explore a universe within your Amiga in full solid 3D. If you want to be able to use the headset and data-gloves like those used on arcade Virtuality systems, then I'm afraid you're going to have to wait for a while. This kind of technology still costs an arm and a leg, so I doubt whether we'll see this sort of thing becoming commonly available to the average user for at least a couple more years.

Domark's *3D Construction Kit*: virtual reality already available for you and your Amiga? We think so.

Q How well are A500 owners going to be looked after in terms of support from both Commodore and third-party developers over the next couple of years?
Steven Tindell, Lowestoft, Suffolk

A Very well indeed. What you must remember is that the 1.3-based A500 still accounts for something like 90 per cent of the user base in this country. With this sort of market dominance, continuing support is all but guaranteed.

Amazing Amiga Fact

Commodore is already working on the 'Triple A' (AAA) chipset for the next generation of Amigas. It is also thought by a few well-placed developers that it is feasible to think about shrinking the Amiga's custom chips down to a single microscopic platform chip. This will mean a reduction in the bulk of Amigas. Who knows, we may end up with an A600-sized A5000!

Q Will we ever see a portable or even a pocket-sized Amiga?
Helen White, Swanton Abbot, Norwich

A It seems unlikely that Commodore will produce a portable Amiga within the foreseeable future. When I questioned Commodore about the possibility, it claimed to have no plans for such a machine. Who knows, Commodore may change its mind if the demand for such a machine is there (I'd certainly buy one), although you can bet such a machine wouldn't be cheap – full-colour LCD screens are still very expensive indeed.

Q Is the Amiga going to survive the onslaught of the consoles. If so, has Commodore any plans to release an affordable entry-level machine within the near future?
Philip Greenslade, Grantham, Lincolnshire

A As I'm sure Commodore would agree, the consoles really aren't serious competition for 'real' computers like the Amiga, simply because consoles are restricted solely to playing games. The Amiga, on the other hand, can be used for a whole host of serious and creative applications such as word processing, DTP, graphics and music. How many paint packages have you seen on the Sega MegaDrive or Super Nintendo?

Commodore already produces a cheap entry-level machine – it's called the A600.

Commodore UK's head honcho, top banana, big cheese and MD, Kelly Sumner, is firmly committed to the A600.

Q Why doesn't the Amiga come with 10 Mb of RAM as standard, and why did the chicken cross the road.
Carl Harrison, Nelson Treharris, Mid Glamorgan

A Providing a full 10 Mb of RAM as standard would knock the price of a machine like the A600 up to something like £800. OK, it would be a powerful machine, but how many users really need that sort of memory capacity? As for your second question, the chicken crossed the road to see its 'flat-mate' the hedgehog (think about it).

Q Can the Amiga 3000 handle the new 'AA' chipset?
James Bland, Thorpe Marriot, Norwich

A If the rumours are to be believed, the A3000 won't be able to handle the new chip set without a major redesign. This is possibly the reason for the A3000's recent price cut. Although Commodore are keeping tight lipped, it wouldn't surprise me if the A3000 was eventually dropped and a new 'AA'-based machine released to fill the gap.

Q Why is the Amiga the best home computer in the world?
Irum Malik, Luton, Beds

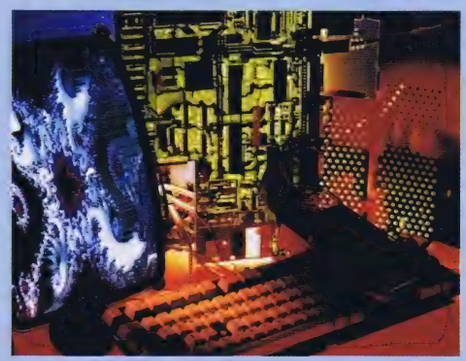
A The Amiga is the best machine in the world because it is so flexible, so colourful, so sonically superb, so easy to use and so damned cheap. In short, it's flippin' wonderful.

Q Is it possible to get incompatible games to run on a 2.04-based Amiga?
Ian E Campbell, Blackpool, Lancs

A Yes. All you need is a ROM sharer fitted with a 1.3 Kickstart ROM. Most (but not all) games incompatible with Workbench 2.04 should then work on your Amiga.

Q Why can't an emulator be written that will enable an 2.04-based A500 Plus to run under Kickstart 1.3?
Simon Fisher, St Mellons, Cardiff

A To be perfectly honest, there's no real reason why a program couldn't be written that would enable Kickstart 1.3 (stored on disk as a binary file) to be dumped into RAM and then used in preference to



The A500 Plus: there is no real reason why it shouldn't work with Kickstart 1.3.

Kickstart 2.04. This is exactly the method that Commodore uses to give developers to enable them to use new operating system revisions before they are blown on to ROM. Indeed, the only thing that stops this becoming a reality is a question of copyright – the Kickstart code belongs to Commodore, so I could see them getting extremely miffed if someone dumped the ROM on to disk and started selling it as part of a commercial package.

Q For such a good machine as the A500 Plus, why does Commodore continue to produce such naff manuals?

Anthony Taylor, Selby, North Yorkshire

A I think you're being a little unfair on Commodore and its manual writers here Anthony. If you think that the manual bundled with the A500 Plus is bad, you should have seen the manuals that Commodore bundled with the original A500 – they were almost unreadable. The manual for the A500 Plus is actually very good indeed – although it skips a few of the more technical aspects of the machine (*ARexx*, for example), it explains in some considerable depth how to use the Workbench and Shell environment. Top marks to Commodore, I say!

effect, this is exactly what Diskdoctor does – it brings disks back from the dead!

Q Why don't Commodore and Atari swallow their pride and get together to produce a cross platform computer to set a new home computer standard that is also totally compatible with both the Amiga and the Atari STE?

Darren Smithson, Reading, Berks

A Because Commodore already has a great machine and Atari doesn't. Now if Commodore, NeXT Corp and Apple were to join forces, then that really would be something! Seriously though, if you want to run Atari software on your Amiga, why not get your hands on a copy of the PD ST emulator? It won't run games, but it's great for serious ST software.

Q Why doesn't Commodore set up a user group and liaise with it?

Mark Longhorn, Redland, Bristol

A There's already a number of user groups that Commodore speaks to on a regular basis. The two best groups that I know of is ICPUG (081-651 5436) and the Amiga Users Group (0533 550993).

Amazing Amiga Fact

This rather intimidating looking machine was *Amiga Format*'s idea for the ideal games playing machine back in September of 1989 (in issue 2 to be exact). Here were a few things we wanted back then: 68040, hardware sprites of any size, 8Mb of RAM, built-in MIDI and stereo sound sampler with mic', 3.5-inch/5.25-inch and CD-compatible drive, a waterproof keyboard, 6882 co-processor, 1,024x1,024 resolution screen, and a pause key for games playing. But no hard disk. Strange uh?

Q Have you any idea who was directly responsible for the Amiga's little eccentricities such as the 'Guru Meditation' and the 'Lazarus' disk that Diskdoctor produces?

Scott Brows, East Stinstead, West Sussex

A The guy responsible for the 'Guru Meditation' was Karl Sassenwrath, the author of the Amiga's multitasking executive Exec. The idea for the Guru message came from a strange game that the guys at the original Amiga Incorporated developed to help them relieve stress – the general idea was to sit on a 'joy board' connected to the Amiga and stay as still as possible. Only in America, eh!

As for 'Lazarus', I'm afraid I don't know who thought this one up. It's generally what is known as a 'programmer's joke' and is based around the Bible story of Jesus bringing Lazarus back from the dead. In

Q Why do most graphics and music software packages rely solely on chip RAM yet don't utilise fast RAM?

Anom Brown, Hythe, Kent

A As you know, the Amiga has two types of RAM – chip RAM and fast RAM. Chip RAM is a type of memory that can be accessed by the following custom chips: Paula, Agnus and Denise, and also the 68000 processor.

Fast RAM, on the other hand it can only be accessed by the 68000. As a result, data such as sound samples and pictures have to be stored in chip RAM for the custom chips to access them.

These days however, this restriction is being addressed by using the 68000 to store chip data in Fast RAM and then to copy it to Chip RAM as soon as it is required.

Q Will new games designed for the A600 run on an A500 Plus?

Dave Peel, Launceston, Cornwall

A Because the A500 still accounts for such a huge proportion of the UK user base, I can guarantee you that all new game releases for at least the next couple of years will work on both the A500 and the A500 Plus. If developers were to suddenly start writing games specifically for the new range of machines, they'd cut their potential market down to something like 5 per cent of the user base. As anyone can see, this doesn't make sound economic sense.

Q Do you think the A600 will be as popular as the A500?

Phillip Pink, Horsham, West Sussex

A Thanks to the recent price cut, I'm convinced that the A600 will prove to be even more popular than the A500. Just watch those Christmas sales soar and then call me a liar!

Q What does the 'A' in A500 stand for?

Duane Muirhead, Palmers Green, London

A The 'A' stands for Amiga. Later Amiga 2000s were called B2000s simply to show that they were upgraded.

Q Which computer does Commodore think brought them the most success – the C64 or the Amiga?

Robert Purser, Boston, Lincolnshire

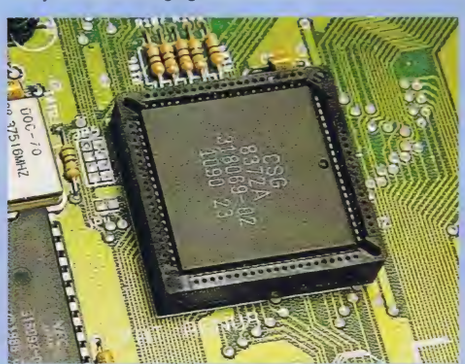
A There are more C64s around than Amigas at the moment, but what you must consider is that the Amiga is so flexible that it will continue to be a viable product for years to come. Although the C64 is still available, I'm sure that even Commodore would admit that it has had its day. In this respect, the Amiga has been (and will continue to be) Commodore's greatest success and asset.

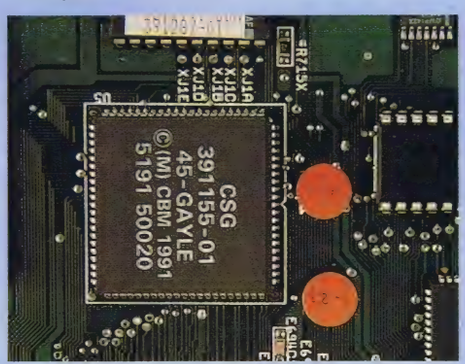
Q Who named the custom chips inside the Amiga and why were they given names such as Agnus, Paula and Gary etc?

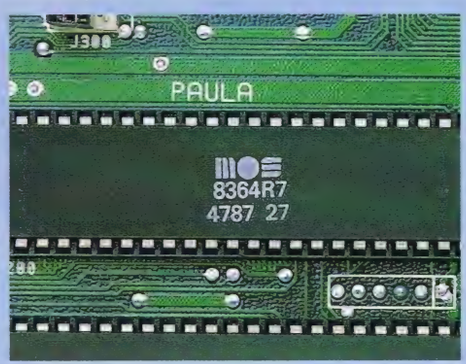
I Timson, Blackburn

A The Amiga custom chips were given their individual-sounding names by the strange Californian people who originally developed the Amiga (they were called Amiga Incorporated and were rather, well, West Coast) before Commodore came along to make them easier to remember (Agnus is easier to remember than 8372A isn't it?).

More recent chips (Gary, for example) were given their names to continue the tradition and to also abbreviate technical names (Gary is short for GAte arRaY, for example).







The Amiga's custom chips are the technological gems that make the computing family the best home computer in the world. Rather than forcing the central processing unit (CPU) to handle all of the data, chips with friendly names such as Gayle, Agnus and Paula take up the sound and graphics strain for smoother processing, better visuals and great music.

Peripherals

Thinking about adding extra hardware to your Amiga? Don't hand over your cash until you've read the answers to these questions...

Q If a 68030 processor was replaced with an '040 processor, would it mean that a maths co-processor is no longer needed?

Craig Hayes, Higher Blackley, Manchester

A As far as I'm aware, it's no longer necessary to use a maths co-processor if you have a 68040 installed simply because the chip has one already built in as standard.

Q Why do so many printers come without a printer driver for the Amiga?

Alexander Ingram, Edinburgh, Scotland

A What you must remember is that printers are not generally produced for a single type of computer; they are what is known as 'generic' devices. What this basically means is that if you buy a printer, it should be possible to get it working on just about any type of computer providing you have the correct lead to connect the two devices together. These days though, the question of (the lack of) Amiga printer drivers is being addressed. A couple of printer makers (notably Star, Citizen and Canon) are producing Amiga printer drivers for their products, so getting up and running is becoming increasingly easy.

Amazing Amiga Fact

Motorola, the company that makes the Amiga's central processor, is having a good time. Not only are its chips in the Mac and the NeXT machines, the IBM/Apple PowerPCs should have them.

Q Why are Commodore's peripherals rated so poorly and yet the computers that they produce are regarded so highly?

Paul Howard, Grasmere, Cumbria

A More often than not, the peripherals that Commodore sells are not actually Commodore products at all – all it does is licence them from other companies and stick its own name on the front panel. Take the Commodore 1084 Monitor, for example. Believe it or not, this is actually a Philips CM8833. Unfortunately, though (especially in the case of monitors), the Commodore-badged units rarely match up to the real thing.

Why Commodore chooses to market such naff peripherals is one of those unsolved mysteries that even Commodore probably couldn't answer. Just remember to check out the competition from third-party developers before going for a Commodore peripheral and you won't go far wrong.

Q How do you stop interlace flicker?

D J Brockley, Bournville, Birmingham

A The cheapest way to cut down on interlace flicker is to buy yourself a polarised screen filter. These sit in front of your monitor screen and filter out a lot of the flicker. This won't totally cure the problem though. If you want to rid yourself of interlace flicker altogether, you'll need a flicker-fixer card such as those produced by ICD and MicroWay Europe. Flicker cards require a multi-sync or VGA-quality monitor to display the higher scanning signal produced by the flicker card. Expect to pay around £500 for both the card and monitor.

Q Why do some peripherals (hard drives and processor cards) often cost more than the price of the Amiga itself?

Pete Thomson, Carterton, Oxon

A It all comes down to a simple case of costs. Components such as hard drives, processors, maths co-processors and 32-bit RAM are still very expensive to buy, even for hardware developers. Commodore, on the other hand, has its own chip-producing facilities which helps to keep production costs down to a bare minimum. Costs have dropped though – just compare the cost of a hard drive today with that of a drive little more than a couple of years back.

Q Can hardware add-ons such as hard drives be connected to the Amiga's bus connector via a ribbon cable, therefore moving the drive away from the machine?

Dan Tarbit Gosforth, Newcastle-upon-Tyne

A I haven't actually tried it myself, but I'm reliably informed that connecting bus devices to the Amiga via a ribbon cable is not a good idea due to the sensitive nature of bus timings. Although some devices may work, you'll probably find that other devices don't.

Q Is it possible to upgrade the A600HD's (Hard Disk's) internal hard disk to a higher capacity unit?

Dean Benson, Nunthorpe, Cleveland

A The A600HD uses a standard AT-IDE drive, so it's possible to upgrade the drive to a higher capacity unit. Why not try Almathera Systems (☎ 081-683 6418) which sells a range of SCSI and IDE drives, so you should find what you want.

Swift printers come with Citizen's own printer drivers for the Amiga, but most printers don't have a driver...

The GVP A530: it's got an 'A' at the front but it's not from Commodore. It's still a great hard drive.

CDTV, CD and the A570

The release of the CDTV drive, and more recently the A570, continually raises questions among Amiga users. Is this the format of the future?

Q Will programs for the CDTV ever reach their full potential or will we continue to be offered a sub-standard product?

Robert Frampton, Verwood, Dorset

A As is the case with all things new, it takes time for developers to really start pushing a machine to its full potential. Take the Amiga, for example – early productivity and games software were pretty lousy to say the least, but the quality has improved considerably since those early efforts. What you must consider is that it takes time for developers to learn the 'ins and outs' of something as radically new as CD-ROM. As their knowledge of the machine grows, the quality of the software that they produce will increase too. Mark my words, we'll start to see some pretty revolutionary titles appearing in the not too distant future!

Q What is wrong with everyone? Why is there such a fuss being made over CD-ROM drives? What I want to know is when will optical drives be available to the average A500 user at a cost that we can all afford? Optical drives provide over 100Mb of removable storage for around £60 per cartridge!

Anthony Brannon, Whitehaven, Cumbria

A I totally agree with you – optical drives are wonderful things, but they're also damned expensive. The SysQuest range of drives, for example, starts at around £1,000 for just the drive and a single 100 Mb cartridge. If the prices were to drop, I'd rush out and buy one today. Unfortunately, optical-disk technology is very expensive right now and I most certainly can't see prices dropping for a very long time to come.

Q Will it be vital in the near future for Amiga users to own an A570 to continue to be part of the Amiga scene?

Neal Veglio, Didcot, Oxfordshire

A CD will progressively become more important within the Amiga market, but it most definitely doesn't spell death for the floppy disk. Although certain titles will continue to be developed solely for CD, the vast majority of native Amiga applications and games will continue to be sold on floppy disk. I think

Commodore Dynamic Total Vision (CDTV): just give it some time, and hope the hype dies down.

too that the price of CDTV-compatible CD-ROM drives will start to drop – I wouldn't mind betting that we'll eventually see rivals to the A570 appearing from companies such as GVP. What you have to remember is that CD-ROM drives are still a relatively new development on the Amiga, so the price of the drives themselves is bound to be quite high. Once third-party developers get their acts together, it's only a matter of time before we see substantial price cuts.

Q What chances has the CDTV got against the vastly superior Philips CD-I unit?
JA Ettles, Bury, Lancashire

A Impressive specifications don't necessarily guarantee the success of a product. During my years in the computer industry, I've seen people fall into this trap over and over again. It's all very good having a computer (let's face it, both the CDTV and CD-i are effectively computers) with a wonderful specification, but they're little use unless there's software available that exploits all the potent power. If there's no software support, the machine will flop (MSX anyone?)

While I'm not claiming that the CD-i will flop (I personally think it'll be a great success for Philips), CDTV has two main advantages that virtually guarantee its continued success – it's been available a lot longer than the CD-i (therefore there's plenty of software available for it), and it's compatible with the Amiga, especially now Commodore has finally released the A570. As soon as more and more Amiga users jump on the CD-ROM train, the user base for CDTV titles will grow to such an extent that developers will be foolish to ignore the machine.

Amazing Amiga Fact

Aside from the fact that you *can't* fry an egg on a CD, nor can you chuck one off a building, and then still expect to play it, the other interesting fact about Compact Discs is that Philips (the company that invented the format – as well as forming Bobby Robson's old club PSV Eindhoven) still makes a sum of money from every single CD, CD-ROM and drive sold.

Q Is there a CDTV users group or magazine?
Mandy Foster, Southsea, Hants

A Flicking through the user group pages of our sister magazine *Amiga Shopper*, I managed to find a user group that should suit your needs. It's run by Julian Lavanini who can be contacted at 113 Fouracres Road, Newall Green, Manchester M23 8ES. As for a magazine, what's wrong with ***Amiga Format***? We already cover new CDTV developments in quite some depth. If all your CDTV users would like to see a regular section on CDTV products within the mag, why not write in and tell us. If the demand is there, I'm sure Damien will be happy to oblige.

Q Does Commodore plan to release an internal CD-ROM drive for the A1500 and A3000?
Robert Sweetzer, Reading Berks

A There's still no official word from Commodore on the availability of a CD-ROM drive for the A1500, but I'm sure it's only a matter of time before the company releases a drive for the machine. It is actually possible to buy one already – Xetec in the States has been marketing its CD-ROM drive for the Amiga for a couple of years now, although I'm informed that it isn't totally compatible with all CDTV software. If third-party hardware manufacturers start to produce rivals to the A570, then I'm quite sure they'll also cater for A1500 and A3000 users.

And now that the A570 has finally been released, it won't be long before third-party vendors start to offer cheaper alternatives.

Q I've got an A500 Plus and a compact disc player. Is there an interface available that will enable me to use a standard CD player to run CDTV software or am I forced to buy an A570?
Thomas Christie, Grangemouth, Stirlingshire

A I'm afraid it's simply not possible to use a standard CD player to run CDTV software. CD-ROM drives require sophisticated control hardware which just isn't built into a normal CD player. I'm afraid you'll just have to invest in an A570 if you want to run all that lovely CDTV software.

Q Which hard drives can be used in conjunction with the A570 CD-ROM drive?
Stephen Dunn, Washington, Tyne and Wear

A Commodore had planned to fit a full 86-pin pass-thru' connector to the opposite side of the A570, but something went terribly wrong and the device actually ended up with a rather strange 40-pin affair that is totally incompatible with every Amiga hard drive and RAM expansion on the market. I'm sure that – if it's possible – someone will eventually produce an adaptor that will enable standard hard drives to be connected to the Amiga via this 40-pin slot. Until then though, you'll have to unplug the A570 every time you want to access your hard drive.

Q If CDs are read-only devices, how do you save data?
David Wilman, Rotherham, South Yorkshire

A You save your data to floppy disk or, if you own an A600, to a PCMCIA card.

Yes you can save data from CD-ROM. It's quite simple if you treat the CD as a huge hard disk.

How long can it be before an Amiga compact disc gets into the 'charts'? Not long with 1,00,000 users.

Games

Everyone's got a question or a quibble about the games industry. Try this selection of answers for some insight...

Q Will there ever be a non-pirateable game?
Robert Shelton, Radcliffe-on-Trent, Nottingham

A To be perfectly honest, there's no such thing as a completely foolproof protection system. Take the consoles, for example – developers welcomed machines such as the Sega MegaDrive because they believed that cartridges would kill piracy. As these very same developers will now tell you, piracy on the consoles too has become widespread. What storage media such as cartridges do stop, though, is what's known as 'playground piracy' – that is, they stop young kids copying games for their mates at school. What they don't stop, though, is the hardened cracker who has both the resources and the knowledge to get around such protection systems.

The nearest that developers have come to a completely foolproof protection system is CD. Because CDs are still only read-only, it's impossible to copy a CD unless you have access to one of the few (very expensive) CD copiers. This still costs an arm and a leg, as does saving 650Mb of data to floppy disks. This is a very good and desirable thing – If developers think that they aren't getting ripped off, they'll be much happier to continue developing for the machine.

Q Why do some games leave the drive power light on?
Steven Welsh, Argyll, Scotland

A Software such as games uses special disk routines written by the programmers to enable them immediate and direct access to any part of the disk. As a result, unless these disk routines specifically turn off disk access, the drive light stays on. So you can blame all of this on the games programmers.

Q Why has it taken David Braben so long to write *Elite 2*?
Philip Young, Baslow, Derbyshire

A I know for a fact that David (or simply 'Dave' to his mates) is a bit of a perfectionist, so he probably delayed the release of *Elite 2* until he was totally happy with the product. This is actually quite common among games programmers – take Jez San's *Birds Of Prey* game. That game was ➧

***Elite 2*: it's taking David Braben a while to get this finished, but good things come... and so on.**

actually due over two years ago but it too has only just been released (much to the dismay of Electronic Arts, I might add). From what I've seen of the game though, it certainly looks pretty impressive in all its shaded 3D polygon glory. You should therefore expect to see it in time for Christmas.

Q Why do so many games insist on using DF0: despite the fact that there may be an additional two drives attached?

Imran Ahmad, Clapham Park London

A Games use special routines coded by the programmer to handle disk access, so this sort of limitation is the fault of the programmer. I too find this very annoying, but there's little you can do about it.

Q Why do software companies have an obsession with boring, time-wasting inter-game screen pictures?

Liam Hayes, Luton, Bedfordshire

A Static screens like those you refer to are usually incorporated to add atmosphere and to give you something to look at while new levels are pulled in from disk. What would you rather look at – a blank screen or a pretty picture?

Q Why do programmers incorporate 'cheat modes' into their games?

Paul Bokor, Waterbeach, Cambridge

A Programmers usually incorporate cheat modes to help them get through a game when it is being tested. In some cases, these cheat modes are removed before the game disks are sent for mass duplication, but these days it's more common for them to be left in to help those of us that are hopeless at games (me, for example).

Q Will there ever be a multi fire-button joystick for the Amiga?

Jerome Evans, Gwynedd, Wales

A Unless Commodore extends the joystick port by adding a few extra pins (which is unlikely), the simple answer is no.

Q Why do joysticks break?

Dan Connors, Bournemouth, Dorset

A Joysticks undergo a lot of stress during frantic blasting sessions, so it's not surprising that they break eventually. Let's face it, if someone grabbed hold of you and started twisting your arm, you can bet that something would break eventually.

Q Why can't Ocean produce a decent film licence?

James Attwood, Clevedon, Avon

A I think you're being a bit unfair James. Since the release of the original *Batman the Movie* game (which, incidentally, was awarded a ***Format*** Gold), Ocean has done a very respectable job of producing licensed games. *Total Recall*, *Robocop 2* and *Robocop 3* (also a ***Format*** Gold game) are just three examples of Ocean film licenses that received darn good reviews in ***Amiga Format***.

Q Why aren't all games designed with manual copy protection and hard drive installation instructions?

Steven Routledge, Whitley Bay, Tyne & Wear

A Manual protection only really works on complex games such as role-playing and strategy games that can only be played with constant reference to a sizeable manual. If a software house was to protect something like a shoot-'em-up using this system, a pirate would only have to photocopy a couple of pages of the manual.

Hard-drive installation is usually only possible if the game is either manual protected (*Eye Of The Beholder 2*, for example) or isn't protected at all. If the protection is disk-based, it would be impossible to protect the game if it had be transferred on to a hard disk.

Amazing Amiga Fact

Why don't you get full games on the front of *Amiga Format*? Well the basic reason for this is that we are not allowed to do this. Once upon a time we did covermount games such as *Interphase*, *Balance of Power*, *Vaccine* and *Archipelagos*. But then the software houses realised that people were playing these and not buying new ones. They put pressure on and Bingo! It's rather sad really.

Q What is the most successful game ever?

Dave Lewis, Drayton, Shropshire

A This is impossible to answer without asking every games software house to hand over their sales figures, which is not something they'd be that prepared to do. For me it would have to be *Lemmings*.

Q Will any Amigas soon have cartridges for serious software or games? Will it be possible to fit them with special graphics or sound chips? If so, how much would they cost?

Nigel Vallis, North Watford, Herts

A I have spoken to several software houses in the past who were considering the idea of cartridge-based games that connected to the A500 via the 86-pin bus connector, but nothing ever came of it. The nearest you're likely to find to true cartridge-based games are games on PCMCIA cards, although to date none have been released.

Software pricing

We are always getting mail asking how much of a game's price is profit, or how much goes on development, so here's a few answers...

Q Although 16-bit games boast better graphics and sound than 8-bit games, why are they so much (much, much) more expensive?

Kannan Thiru, Southport, Merseyside

A The cost of producing a game on a 16-bit computer is much higher than that of an 8-bit. With technically more superior graphics and sound capabilities, the task of producing a game for a 16-bit computer is no longer a one-man operation. Games programmers restrict themselves to writing the actual code while the task of producing graphics and music are handled by an artist and musician respectively. 16-bit computer users expect a far more sophisticated product as well, so software houses put far more effort into 16-bit games to make them better value for money.

Q How can software houses justify the harsh prices for below average games?

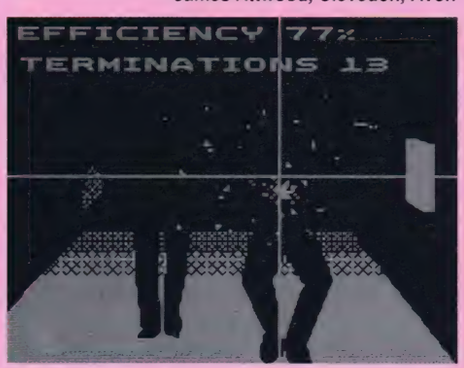
Simon Pilkington, Leighton Buzzard, Beds

A Games are a little bit like new born babies. My neighbour's wife, for example, has just had a baby. Although I think it's damned ugly, she's proud as punch of the dear little thing. As far as she's concerned, it's the most wonderful and most beautiful creature that ever gurgled and crawled it's way across the Earth. Games programmers and software houses too like to think that their products are wonderful – it's not until magazines such as ***Amiga Format*** tear substandard games to shreds that the horrible reality starts to set in. So how do you protect yourself from getting ripped off? You read ***Amiga Format*** of course.

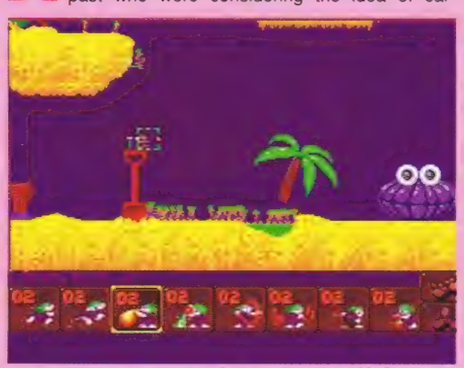
Q How much profit does a software house make on a two-disk game costing £29.95?

R.Sibley, Ely, Cambs

A Surprisingly, the profit margins on games software isn't as high as you may think. What you have to consider is that the software house has to recoup its development costs – distributors and the programmers also take their share and the retailer gets a cut too. At the end of the day, there's usually on a couple of pounds left in pure profit. It's impossible to say exactly how much a games software house gets, simply because there are so many variables involved.



***Batman* and *Robocop*, pictured, prove that Ocean can knock out some pretty damn fine film licences.**



***Lemmings* from Psygnosis. Definitely one of the most successful games ever on the Amiga, no problem.**

PCMCIA cards on the A600. No games and none likely in the near future – shame.

Programming

Whether you're programming for fun or for profit, here's some vital answers will prove invaluable...

Q How would I go about getting any programs that I've written on to the software market?

A Before approaching any software house with your program, the first thing you must do is to protect yourself in case your idea gets ripped off. Although this sort of thing is very rare these days, it still happens. What you should do is to make a copy of the program and its documentation, seal it in a jiffy bag and mail it to yourself. When it arrives, don't open it – keep it safe because you may need it to prove the age of the program. The next thing you need to do is make several copies of the program and its documentation and send them to a couple of software houses that specialise in the type of software you have written (it's no good sending a word processor to US Gold, for example) marked for the attention of the 'Product Manager'. If they are interested in your program, they will contact you to discuss marketing it.

Q How much money can you make by creating games in *AMOS* and distributing them?

Ben Wain, Rotherham, South Yorkshire

A How much you make out of a product depends entirely upon how well it sells. If it's a commercial product, you can make something like £10,000 or more if it sells well. If you put it into a licenseware scheme like the one run by Sandra Sharkey of the *AMOS* PD Library, you'll make £1 for every copy sold.

Q Do software houses take on trainee programmers or do you have to be able to code already?

David Bateman, Huntington, York

A It's very unusual for software houses to take on trainee programmers unless they have at least a working knowledge of programming.

Q What do games programmers get paid?

Andrew Chapple, Saltash, Cornwall

A How much a games programmers gets paid depends entirely upon the company they are working for and how good they are. On average though, a programmer working 'in-house' (ie, an employee of the company) should expect between £10K to £14K per year plus bonuses. These bonuses depend entirely upon how well the game sells, although most games programmers receive at least £3,000 in bonus payments per game.

***AMOS Pro*: the most highly rated piece of software we have ever seen on the Amiga. It achieved 97 per cent.**

Q How did the top Amiga games programmers learn to write their games and how can I learn?

David Arnholm, Stubbekobing, Denmark

A Most of them started off like the majority of programmers do, just by tinkering around with the Amiga's hardware. The best way to learn games programming is to start off by getting a good solid knowledge of the hardware – teach yourself how to open and scroll screens, move sprites and bobs etc. Once you've got this sort of knowledge under your belt, the actual process of writing a game is not as hard as you may think.

Many of the top games programmers started writing games as a sideline to a separate career, only to find that programming paid so much better. This was exactly the case with Dave Jones (head honcho at DMA Design, author of *Lemmings* and now the proud owner of a Lotus Turbo Esprit – read all about him and *Lemmings* on page 80) and David Braben, the author of *Elite*, *Virus* and the soon to be released *Elite 2*. Getting established nowadays can be difficult, though, because you have to be a very good coder indeed to get yourself noticed.

Amazing Amiga Fact

If you have not as yet got into programming on your Amiga, don't forget that we gave away a free copy of Hisoft's *Devpac* programming language on *Amiga Format* issue 39's coverdisk. We also got the Bullfrog programming team to provide some tutorials.

Q Why is the Amiga's operating system so difficult to program?

Gary Stimson, Roade, Northants

A You're right, the Amiga's operating system is a pig to program, but Workbench 2.04 has improved this situation a little by adding a few extra libraries that provide commonly needed functions such as IFF parsing, standard requesters (a file selector, for example) and extra gadgets etc. It's not entirely fair to criticise the operating system for being difficult to program though – it's simply very powerful and very flexible. If it were too basic, applications programmers would have to work around too many restrictions, resulting in slower code and larger source files.

Q Which programs do the professionals (such as Francois Lionet and Archer MacLean) use to write their programs?

Kashif Chondhree, Watford Herts

A The tools that individual programmers use really comes down to a matter of personal preference. Most programmers use an assembler running on either an Amiga (*Devpac 3* being the favourite) or what is known as a PDS (Program Development System) machine. These PDS systems are usually PC-based, although I know of at least two top games-programming teams that have written their own PDS systems based around the Amiga. DMA Design (the authors of *Lemmings* and *Blood Money*), for example, use a network of Amiga 3000s for all their development work.

The assembler is by far the most important tool, but it's not the only program that you need. Games programmers usually write themselves tools that carry out mundane tasks such as converting images produced in *Deluxe Paint* to binary format etc. You can't buy these utilities 'off the shelf' so to speak, so they have to be written by the programmer.

Q If it is possible to program the Amiga's custom chips, why isn't it possible to get Workbench 2.04 on disk instead of having to upgrade your chips?

Richard Gates, Boston, Lincs

A There's a big difference between programming the custom chips and programming the Amiga's ROMs. The custom chips have what are known as 'registers' which programmers use to communicate with the hardware. These registers are volatile which means that as soon as you switch off your Amiga, they are cleared. The Amiga's ROM, on the other hand, cannot be written to at all – because as its name suggests, the Kickstart ROM is read only.

It is technically possible to install a new operating system into the Amiga simply by loading the ROM into RAM as a huge binary file and then redirecting the Amiga's system vectors so that the Amiga uses the ROM file held in RAM rather than its own built-in ROM chip. This is precisely the technique that Commodore uses to provide developers with pre-production copies of the operating system – I for one had Workbench 2 up and running on my old A1000 about two years before it was officially released on the A500 Plus.

The only real problem with this technique is that because the ROM is loaded into RAM, it eats up loads of free memory. Take Workbench 2.04, for example. The 2.04 ROM is 512K in size, so if you loaded this into RAM on a 1Mb machine, you wouldn't have much memory left after you had loaded it (approximately 200K, to be precise).

Q What is the future going to be like for games programmers since some companies are deserting the machine?

Graeme Allan, Strathclyde, Scotland

A As any games programmer will tell you, the future is still very rosy for the Amiga. Despite the fact that several companies (mainly in the States) have stopped developing for the Amiga, there are still many new companies coming into the market that are more than willing to fill the gap. The American Amiga market is dying a bit due mainly to the dominance of the Mac and PC, but the European (and especially the British) Amiga market has never been healthier.

Q Can the Amiga use programming languages such as 'C' or 'Pascal' and what sort of memory capacity do you need?

Simon Gettings, Harpenden, Herts

A It most certainly can! The best C compiler for the Amiga is the Lattice/SAS C system (£230). As for a Pascal compiler, try HiSpeed Pascal. It offers an integrated development environment and is fully compatible with Turbo Pascal on the PC. Both products are available from HiSoft (☎ 0525 718181).

Q Why can't Commodore provide a good, multi-purpose programming language with the Amiga? Surely they can do better than the now obsolete AmigaBASIC?

Matthew Holt, Neath, Wales

A They do – it's called ARexx and it's supplied free of charge with all new Amigas. Ok, so ARexx isn't everyone's cup of tea, but why invest thousands of pounds producing a programming language for the Amiga when there are already absolutely brilliant packages like *AMOS* available?

Ok, so it isn't bundled with the Amiga, but I wouldn't be at all surprised if *AMOS* eventually ended up in an Amiga bundle.

Amiga Format

It has become obvious that many of you wanted to know a bit more about us, so we thought it was about time we spilled the beans...

Q Do the publishers of magazines such as *Amiga Format* see a future for themselves while there seems to be no end of duplication of so many topics? From games and hardware, to software and news, it seems to me that we're reading the same stuff over and over again but in different packaging.

Mr M Turnbull, Morpeth, Northumberland

A What you have to realise is that as Commodore sells more machines, we gain more new readers. As a result, a topic that is old to you is completely fresh to these readers. Not only that, but the Amiga marketplace is developing at such a high speed these days, that articles such as buyers' guides and product round-ups are usually out of date after little more than a few months. As new products appear on the market, we feel that we owe it to our readers to see how these products compare to those already established in the Amiga market. We also keep our eyes on new developments such as CD-ROM, CDTV, new gaming techniques, revolutionary software and hardware and the personalities involved. And, if you were to think about what you wrote and compare ***Amiga Format*** to other, non-computer magazines, you would see that we have more new features than say fashion magazines, car magazines or sports magazines all of which also have to repeat information and features.

Q Are you planning on producing an article on how *Amiga Format* is produced? I'd like to see an article that shows the production of *Amiga Format* from the very first stages of choosing what goes in to how it finally hits the newsstands.

J Malcolmson, Wigston, Leicester

A Well, if you turn to page 61 of this annual, you'll find just the very thing.

Q Why does *Amiga Format* continue to use Apple Macintoshes to produce the magazine now that A-Max II is available?

Stuart Hogton, Salisbury, Wiltshire

A There are basically two main reasons why we still use Macs in preference to an emulator such as *A-Max II*. The first reason is colour – although *A-Max II* (and especially *A-Max II Plus*) is capable of running *QuarkXPress* (the DTP program that is used to lay out all our pages), it can only run Mac software in mono. Marcus (our Art Editor) needs to be able to see precisely how the pages of the magazine will look before they are sent to the publishers, so running Quark*XPress* in black and white wouldn't really be suitable for his needs.

Not only that, but I don't think Chris Anderson (Mr Big at Future Publishing) would be too chuffed if we chucked all those expensive Macs out of the window and asked him to spend thousands of pounds equipping all the artists with Amigas running *A-Max II*. At the end of the day, what's the point in buying an emulator if you already have the real thing?

But don't for one minute think that the Amiga doesn't play a very important role in the production of the magazine.

Marcus (who is an Amiga fan himself) uses the Amiga extensively for image processing and for designing logos and covers etc (the ***Format*** Gold logo, for example, was produced in *DPaint*).

Amazing Amiga Fact

Despite what many people sem to think (especially one politician we could name) *Amiga Format* is not written, published or even funded by Commodore. Nor is it in any way connected to a (non-existent) company called 'Amiga'. We are fiercely independent of 'the industry' and proud of it. That goes for *Amiga Format* and our parent company Future Publishing.

Q Do any of the members of *Amiga Format* ever dabble in graphics and music. If so, let's see them in the magazine.

Jim L Barnes, Itchen, Southampton

A Virtually all of the ***Amiga Format*** team are 24-hour-a-day Amigaholics. Nutts, Neil and Tim are all keen musicians, Marcus is heavily into graphics and Karl even has his own record (and CD) out – and there's another one on the way. I am heavily into both music (especially MIDI and sampling) and animation. As for seeing them (or rather their work) in the mag', would you really want to see such self-indulgence?

Q How many of the people who work on *Amiga Format* don't have an Amiga at home, and if not why not?

Ross Coleman, Higham Ferrers, Northants

A Almost every single member of the ***Amiga Format*** team owns at least one Amiga. Marcus owns two A500s (one of which is a Plus), Nutts owns an A3000 and an A600. Tim has an A600, Neil has an A500 Plus (although he's also saving for an A4000), Gary has a very sweet little A600 (that's what he calls it anyway), Damien has an A500, Karl has an A500 Plus, and Pat has the bloomin' lot. I used to own four Amigas myself (an A500 Plus, a B2000, an A1000 and an A3000) until someone swiped the A1000 and the A3000 from my flat while I was on holiday. The only member of the team that doesn't own an Amiga is Sue, although she claims that she's buying an A600 as soon as her next pay cheque arrives (she's been saying that ever since she joined the mag though).

Q What does copyright mean? If a piece of software is copyrighted, what are my rights? Can I back it up or copy it for friends?

Steven Layzell ,Ware, Herts

A When a company copyrights a product, it basically means that the product remains its property. Consequently, when you buy a copy of that product, all you are effectively doing is paying the software house a licence fee which enables you to use that product on your machine.

Some companies allow you to back-up their products for your own personal use (although the number of back-ups that you are allowed to make is usually restricted), but this doesn't mean you're allowed to copy that product and then distribute it to your friends. If you do, then you are breaking the law and are therefore liable to prosecution, hence the establishment of organisations such as FAST (the Federation Against Software Theft).

Q Why doesn't your spelling checker work?

Adam Single, Tonbridge, Kent

A Wot do yu meen? Seriously though, nothing in life is absolutely 100 per cent perfect (yes, even ***Amiga Format*** is not quite perfect). There really is no use for spelling errors in this magazine, so I won't offer one. But I will say this, if you do see an error, make sure to write in and tell us about it.

Q Why does every Amiga computer magazine contain several pages of game cheats?

David Fairweather, Blackburn, Lancashire

A Before I go any further, I'm afraid I have to correct you – not every Amiga magazine contains games, let alone game cheats. If you're after a magazine that contains absolutely no games whatsoever, then why not also check out ***Amiga Format***'s sister magazine *Amiga Shopper*? Every single page is dedicated entirely to the more serious aspects of computing on the Amiga. If you can find a single game cheat in that magazine, I'll send you a fiver (*and I'll make sure he does, Ed.*)

Back to your original question though, magazines

The *Amiga Format* Gold logo (awarded to products that score more than 89%) was designed on the Amiga.

***Amiga Format* is so independent that we staffers get into all sorts of arguments – particularly Sue.**

***Amiga Format* has grown from a simple magazine into the sponsor of the UK's largest ever computer show.**

such as ***Amiga Format*** contains game cheats simply because we've found it to be a very popular section of the magazine. Although you may not need cheats, there are those among the readership that aren't quite as talented with a joystick as your fair self (like me, for example). Without Andy's GameBusters section, I'd still be marooned on *Monkey Island*.

Q How does *Amiga Format* manage to give us two such fantastic disks every month?
M Ellicott, Alphington, Exeter

A The people you've got to thank for ***Amiga Format***'s Coverdisks are editor Damien, who makes the overall decision on which programs are included, advertising manager Duncan Ferguson and promotions manager Michele Harris who go out there and find all the biggest and best programs to have on to the disk. Then there's our technical editor Pat McDonald who performs the incredible feat of squeezing everything on to two disks, as well as finding those extra utilities and files that make each disk special. They will all be pleased to know that their hard work is appreciated.

Q Do you have to pay for the games that you review and do you keep them afterwards?
Jonathan Bertram, Thornbury, Bristol

A All of the games that appear in ***Amiga Format*** are sent to us directly by the software houses that produce them. Reviews are another form of publicity for software houses (yes, even bad reviews!), so they do not expect us to pay for them. Once the review is complete, we are allowed to keep the games. They're not just thrown in a dusty corner though – we need to be able to hang on to games to test out the cheats that appear in our GamesBusters section and for game-related features.

However, there have been a (very) few occasions in the history of this magazine when software houses have been reticent to let us have a game. This has been because they were sure that the game was bad and did not want this publicised too much. In situations such as this we have two options: buy the software, or don't bother reviewing the games (deprives them of the oxygen of publicity etc, etc).

Most software houses worth the name are prepared to have their games reviewed and take the criticism like grown-ups.

This usually also applies to serious hardware and software, although we usually have to return more expensive items such as hard drives and processor accelerators. If we then need to see those items again, we simply contact the companies involved and they 'loan' us the item for a couple of weeks.

Q How do you work out the percentages for games in your reviews?
Glenn, Dearing, Poole, Dorset

A The overall rating that we give a game is based around several very important factors – the game's playability, the quality of its graphics and sound, it's price and how long it will keep you interested. Our game reviewers have probably played every Amiga game in existence, so they're in a pretty good position to make these sort of judgements. There is no scientific way of coming up with ratings and sometimes arguments ensue – solving these is another one of Damien's many and varied tasks.

Q Who is the most popular member of the *Amiga Format* staff?
David Flowers, Ealing, London

A That question quite happily answers the question: 'What's the best way to start a bar brawl in Bath?' Everyone loves everyone else. Except, that is...

AmigaDOS and Workbench

The Amiga's operating system and Workbench frontend were designed to be very user friendly, but we still receive mail about the frustrations of using both of them...

Q Is there a publication available that will tell me how to write a StartUp-Sequence that works? I can't find one anywhere!
Shaun O'Donnel, Spaldine, Lincs

A Have a look at the answer to the question immediately below Shaun...

Q What's the best way for a beginner to learn how to use an Amiga 500 Plus to the full when there's no one to give personal advice?
Mr S P Morris, Billington, Lancs

A Why not treat yourself to a copy of *Mastering Amiga Beginners* from Bruce Smith books. Written by Phil South, a friend and fellow ***Amiga Format*** contributor, the book is packed full of useful hints and tips that will let you get the most from your Amiga. It costs £19.95 and is available from BSB on 0923 894355. Another good idea is to keep reading ***Amiga Format*** – every month we publish articles aimed at beginners. By the way, are there any Amiga tutors out there? If so, get in touch with us.

Q How do you alter the StartUp-Sequence to install a RAD: drive?
MA Sims, Rainham, Kent

A Easy. All you have to do is to add the line 'Mount RAD:' to your StartUp-Sequence. Providing that the mountlist for the RAD: device and the appropriate system files are on your boot disk (they are on a standard Workbench disk), this should automatically install RAD: each time that you reboot.

Q Why is it that there are compatibility problems between Workbench 1.3 and Workbench 2.04?
S Britcliffe, Nelson, Lancs

A Technically speaking, Workbench 1.3 and Workbench 2.04 are totally compatible. Problems start to arise, however, when programs written to work under 1.3 employ software cheats and techniques that do not follow Commodore's programming guidelines. Although these programs will work under Workbench 1.3, they keel over when run on a modified release of the operating system (Workbench 2.0, for example).

Q Why is software on the Amiga so much cheaper than on the PC?
Michael Morrin, Newtown abbey, Co Antrim

A Mainly because PC owners are prepared to pay these prices. What you must consider though, is that many large corporations buy PCs, so having to shell out £600 for a database isn't going to break the bank.

The Amiga, on the other hand, is more of an enthusiasts and home user's machine, so the prices of Amiga software has to be kept down to ensure that users can afford them.

Q Why does the same piece of software or hardware cost the same in pounds as it does in US dollars? Will this situation change?
Jim Hathaway, Surbiton, Surrey

A I think it is changing Jim. As the sales of serious Amiga hardware and software products increase, the cost of shipping products from the USA is reduced. Take the range of products from GVP, for example. With GVP products now selling so well, it has been able to drop the prices on its products quite substantially.

Another factor is competition – with so many UK companies producing hardware and software products to compete with the US products, distributors have had to cut their prices to remain competitive.

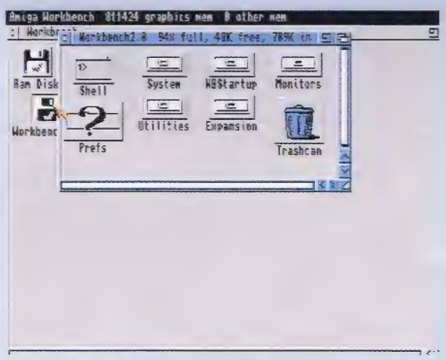
Q How do I make a 2Mb RAD: drive under Workbench 2.0?
M Barker, Hull, East Yorkshire

A All you need to do is to change the mountlist (you'll find the Mountlist file in the Devs: directory of your Workbench disk) for the RAD drive so that the line that reads 'HighCyl = 79' reads 'HighCyl = 186'. This will give you a RAD drive of approximately 2Mb in size.

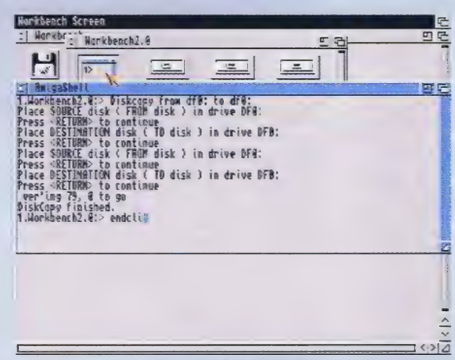
Q Why is it that the majority of the manuals supplied with software and hardware defy anyone's understanding!
R A Thorne, Shepherds Green, Henley

A It's a sad fact that the manuals supplied with many products are so unreadable. What you must realise, though, is that manual writers are forced to strike a delicate balance that will appeal to both techies and beginners alike.

I really do see your point however, and I also agree that many developers should put more effort into making products easier to understand by including far more useful sections like tutorials and getting-started guides.



Workbench: unlike PCs, for which you have to pay £99 for a graphic user interface, this one comes free.



AmigaDOS has been widely criticised by developers, users and reviewers. But you don't have to use it.

Workbench & Answerfile

Perennial posers

From getting Workbench to work, to making your printer print – here's a round-up of all the popular questions asked time and time again with **Jason Holborn** giving you all the right answers...

A gigantic problem-busting, er, blowout was the main thrust of *Amiga Format* issue 31 (from which this cover image comes). In fact, in that issue we even showed you how to write your own games.

VIRTUALLY EVERYTHING IN life seems complex on first inspection – take driving a car, for example. Once you have a bit of driving experience under your belt though, even nightmare scenarios such as coping with rush-hour traffic will seem a doddle. But do you remember the frustration and anxiety that you had to suffer when you were first learning to drive a car?

Learning to use a computer as complex as the Amiga is pretty much the same, so don't think you're bit of a thickie if you don't quite understand every aspect of the Amiga's operation – you're just taking the first fun steps towards mastering a very exciting machine.

Even the people that write your favourite read (***Amiga Format*** of course) had to start somewhere. Although most of us can now regurgitate the Amiga ROM Kernel manuals backwards in our sleep, there was a time when even ***AF***'s technical editor Pat McDonald and my fair self didn't even know how to load a program from Workbench. Back then we were still learning, but look how far we've come now. As anyone who knows us will tell you, if we can master the Amiga then so can you!

It has to be said, though, that the Amiga is more complex than your average run-of-the-mill computer. This isn't necessarily a bad thing, it only goes to prove what a versatile and oh-so powerful computer you've bought. Looking back over the three (and a bit) years of ***Amiga Format***'s existence, though, it's obvious that there are certain aspects of the Amiga that provide more than their fair share of frustration, printers being a prime example.

Over the next few pages, you will find the solutions to many of the simple everyday problems you're likely to encounter during your 'L'-plate days with the Amiga. You can either read through them 'en masse' (therefore preparing yourself for all eventualities), or simply use this as a trouble-shooting guide for when a problem does occur. Either way, we're sure that this guide will prove to be not only educational, but it might even save you a fortune on headache tablets!

Firstly, a few guidelines. The Amiga is pretty complicated for a computer – many, many different people were involved in the design of it, and so it has various different influences. If you want to understand absolutely everything, expect to spend a few years in deep study.

You don't have to know that much to do most things though. It takes maybe 10 hours to get settled in with Workbench, to the stage where you know how to get programs going. Stuff like changing the colours comes later. These days, people who design computers and the programs that run on them are aware that most people just want to get things done – like most car drivers, they don't know much about the mechanics.

GETTING STARTED

Imagine the scene – you've just bought yourself a brand new Amiga and got it home only to find that you can't figure out how to get it up and running. If this sounds like the sort of problem you have, then let us put your mind at rest with these answers to some of the more commonly asked questions.

Q Although I have owned several 8-bit machines in the past, I cannot understand how to load certain programs on my new A600. I can load the games which came with my new machine, but I cannot get some disks to load when the machine is first switched on. What am I doing wrong?

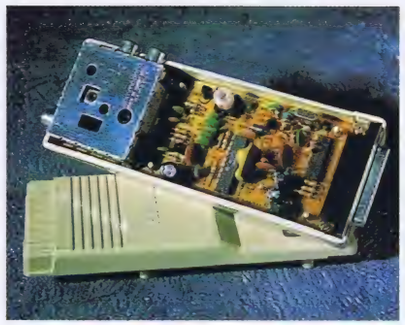
A Whether or not you can load these programs when the machine is first switched on depends entirely on whether the disk is bootable – that is, whether it contains what is known as a 'boot block'.

Virtually all games and most commercial software disks are bootable, but some public

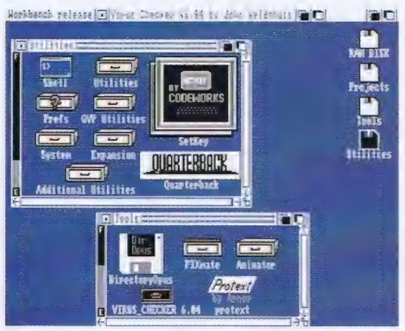
domain disks are not. To load the programs on a non-bootable disk, you therefore need to load up Workbench first from the Workbench disk that is supplied with your machine. Once Workbench has loaded, you can then swap disks and load the programs on your PD disks using the Amiga's Workbench front end.

Q **I've been told by several Amiga-owning friends that I should never connect and disconnect anything from my Amiga when it is switched on. Will it damage my Amiga if I connect something like a printer while the machine is switched on?**

A Your Amiga-owning friends are correct – you should never (and I repeat NEVER) connect or disconnect any device while the Amiga is switched on. Although you may not cause any damage for a while, all it takes is a slight misjudgment when messing around with the connectors to cause the Amiga to go pop – this even applies to joysticks and mice. Play it safe and always switch your machine off first.



Want to connect your A500 to your television, but can't find the TV modulator connection in the box? That's because there isn't one. You need to spend about £25 on an A520 TV modulator



Recognise this screen? Well if you do then you're probably the proud owner of an A500 which has Workbench 1.3.

Q **I've just bought myself a second-hand A500 Plus after seeing a friend's A600. Although the specifications are virtually identical, I cannot find the TV modulator connection. My friend's A600 has one, but there doesn't seem to be one on my A500. How can I connect my A500 to a standard television?**

A I'm afraid you are going to have to shell out a fair bit of cash to be able to connect your A500 to your television. Although the A600 has a TV modulator connection as standard, all the other Amigas in the range need a separate TV modulator. The model which works with the A500 or A500 Plus is called the A520.

Don't worry too much – these only cost £25-30 and are available from most good Amiga stockists. If your TV has a Scart connector, then you can get Amiga-Scart leads for £10-£15. If the worst comes to the worst, though, you can get details of where you can buy one from Commodore – ☎ 0628 770088 for more information.

Q **Why is it that the Workbench disk supplied with my friend's A600 does not work on my second-hand A500? The only difference that I can see between the two machines is that my A500 displays a picture of a hand when it is first turned on and his A600 has a very posh animated disk being inserted into a drive. Is the A500 incompatible with the A600?**

A The answer to this is simple – the machine that you own is running an older version of the Amiga's operating system. Although software written for 1.3-based Amigas (this is the version of the operating system that you are probably running) is fairly compatible with 2.04-based Amigas (the A600 uses version 2.04 of the OS), the reverse is not true. If a piece of software or hardware says you need Workbench 2, then you have to have it or the product won't work.

However, it is possible to upgrade your machine to Workbench 2.04 by purchasing the 2.04 Enhancer pack (this costs £79.95 and is available from most suppliers). Upgrading to 2.04 requires a new ROM chip to be fitted inside your Amiga, so you may want to get an experienced engineer to carry out the upgrade. It's not majorly difficult, but I wouldn't want to try after I'd had a few pints.

Having said all that, it isn't really necessary to upgrade to Workbench 2.04 unless you really use the Amiga seriously. There are very few software titles available that are written specifically for Workbench 2.04, so the chances of finding a package that won't run on your Amiga is very remote. The number is going up gradually, but it will be years before nothing new is released for 1.3.

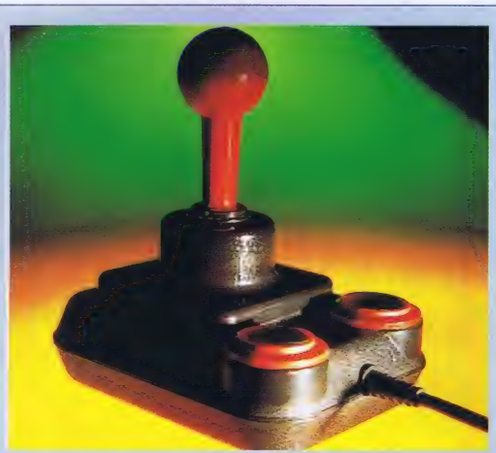
If you don't have a 1.3 Workbench disk (commonly missing when you buy a second hand A500) then buy yourself a copy of the 1.3 Enhancer pack. You used to be able to get them through mail order, but most mail order companies have dropped it in favour of the 2.04 Enhancer pack. However if you call Commodore ☎ 0628 770088, the company will certainly have a copy. A few companies do just the 1.3 Workbench disk for about £10, but supplies are gradually drying up so you had better be quick if you want one.

Q **Having recently bought an Amiga for playing games, I now need a joystick. What type of joystick do I need?**

A Any joystick that uses a standard Atari 9-pin 'D' connector will do the job providing that it is digital rather than analogue (analogue joysticks are rarely supported by games other than the occasional flight simulator). These days, most sticks list what they work with on the side of the box.

Different types of joystick are best for different types of game. Arcade platform games are easier with short joysticks. Longer sticks are better for simulations and slower games, where the reaction times are not so fast.

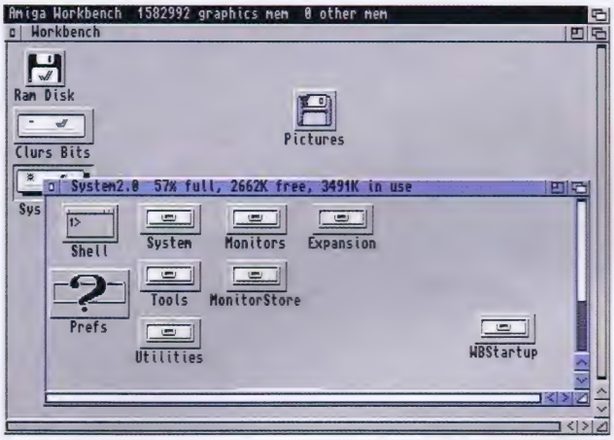
Just check through the ads in this publication and within ***Amiga Format*** every month for the best prices. Personally I'd recommend the Konix Navigator or the Kempston Competition Pro.



Buying a joystick is a pretty straight-forward affair. Certainly this Competition Pro would do you proud.

Workbench

Power-up with Workbench and learn how to get the most from your Amiga...



THE AMIGA'S WORKBENCH is undoubtedly the workhorse of the entire system. Unfortunately, it can also be rather confusing if you're not used to using WIMP (Window, Icon, Menu, Pointer) based computers. If you want to get the most from your Amiga, then the answers on these pages should set you on the right tracks.

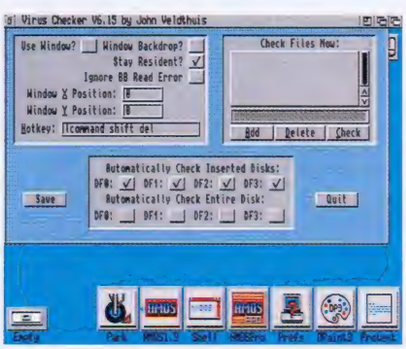
This is Workbench 2.05 and you'll find there's far more space on disk than in the previous release.

Q What is the Workbench and what will it enable me to do?

A Back in the days of the early PC compatibles and 8-bit machines, computers were controlled by entering commands via the keyboard. This obviously required a fair bit of knowledge on the part of the user, simply because there were so many commands to remember and the syntax of each command was quite complicated.

However, some bright spark at the Xerox Palo Alto Research Laboratories came up with the idea of the WIMP system, a very clever idea which replaced these complicated commands with pictures called 'Icons'.

Instead of typing a command, all you had to do was to move an on-screen pointer to the icon which represented the operation you wanted to do and then click a button on the mouse to select it – the computer would then interpret this selection and carry out the operation you required. Suddenly you didn't need to look up references to obscure typed commands – you could learn by playing.



A virus protector program such as John Velthuis' will protect all your disks from digital germs.

Disk corrupted? Then you need Diskdoctor from your Workbench disk to help you rescue all your files.

The Amiga's Workbench is a development of these WIMP systems. Employing the same point-and-click user interface, the Workbench enables you to carry out operations such as loading programs, copying disks and performing all sorts of disk-maintenance chores without having to remember complex commands and their syntax. All you need to know is the basics of how to use a WIMP system and you instantly have access to all the facilities that it has to offer.

Q When I try to format a disk from the Workbench, the window appears but the machine just locks up. Do you know what's going on?

A This isn't a fault of the Amiga's at all – you actually have a virus on your Workbench disk (the *Lamer Exterminator 2*, to be precise). Buy yourself a virus killer and run all your non-game disks through it.

Although Workbench is very powerful and will certainly enable you to examine the contents of disks, load programs, copy disks, etc, nothing can touch AmigaDOS for gutsy power. AmigaDOS enables you to perform all sorts of house-keeping chores such as copy, renaming, deleting and generally organising the contents of disks.

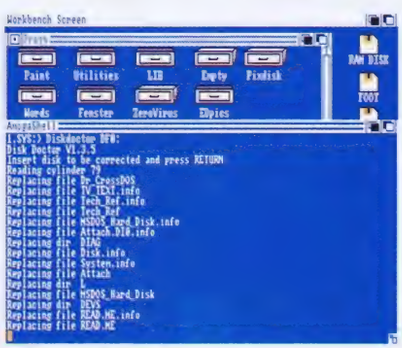
However, if AmigaDOS has you stumped, we're here to help...

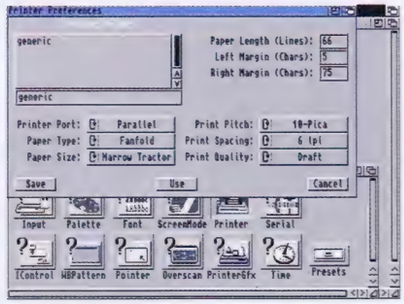
Amiga DOS

What is it? How does it work? All your AmigaDOS questions answered here...

Q What are AmigaDOS and the CLI? Are they the same thing?

A There are times when even the Amiga's Workbench is not powerful enough and so it is necessary to use the Amiga's CLI (or Shell), a command line-based method of controlling the Amiga which gives you instant access to a variety of facilities not available through the Workbench. The CLI will enable you to copy disks, delete files and create directories and it provides a much





A friendly Workbench screen asking you for your printing preferences.

greater level of control and flexibility. It's a more precise tool for controlling the Amiga.

All of the commands that you issue through the CLI are held on disk as separate files in a directory on your Workbench disk called 'C'. Because they are not resident (that is, they're not built into the Amiga's ROM), it is only possible to use them when the disk you have booted from has a 'C' directory containing the commands you wish to use.

Another benefit of the CLI is that it enables you to write 'Scripts'. Scripts are basically programs that you write that have more than one AmigaDOS command, therefore performing a function that would require you to enter several commands with just a single command preceded by the word 'Execute'.

Q What is the *Diskdoctor* and how can I access it? Is it the same as the Diskdoctor ROM which was available for the BBC Micro?

A The *Diskdoctor* is a small program on the Workbench disk that can be used to rescue files on a corrupted disk. To use it, enter the CLI and type 'Diskdoctor DF0:' and press return. When the Amiga asks you to insert the disk to be fixed, remove the Workbench disk and insert your corrupted disk. If *Diskdoctor* is successful (which it rarely is), copy all the files off the disk and on to a blank as soon as possible. You should then throw the old disk away.

Q Is it possible to use commands such as Dir, Delete and copy without having to re-insert the Workbench disk every time you enter a command?

A It certainly is. All you need to do is to copy the AmigaDOS commands that you use most into the RAM disk and then set a search path to the RAM disk so that AmigaDOS knows where to find them using the command 'Path RAM: Add'. Providing the command has been copied to RAM, you should now be able to use it without having to access the Workbench disk.

There is a way (if you have enough memory) to copy the whole of Workbench into the RAD disk. This requires a fair dollop of CLI knowledge, but not only do you avoid disk swapping, the machine won't need the Workbench disk back unless you turn it off. That means you load from floppy once, and don't have to do it again. More details can be found in the User manual.

Printers

We show you how to turn your printer problems into simple solutions...

BUYING A PRINTER is one thing, but getting it to work with your Amiga applications is a test for even the hardened user. We ease the pain with solutions to your printer problems.

If you're thinking of buying a printer (maybe something like one of these lovely Citizens) have a quick read of these common printer problems and you won't go too far wrong.

Q I want to buy a printer for my Amiga, but I'm unsure about what type to buy. My friend owns a PC and he tells me that it depends on the type of connector that the machine uses. He uses a 'parallel' printer, but he says there are also SCSI, Serial and AppleTalk printers available. What type does the Amiga use?

A The Amiga can access basically two types of printer – parallel printers and serial printers. Serial printers require a fair bit of technical know-how to get running (setting up the Amiga's serial port can be a pig if you're not sure what you're doing). Your best bet is a parallel printer which connects to the Amiga via the parallel port.

The Amiga can use SCSI printers (these are usually only laser), although you will need to buy a SCSI controller to be able to drive them. The majority of printers are parallel as standard these days, so go for a parallel printer.

Q I've just bought myself a dot matrix printer, but I cannot get it to work with my Amiga. Please explain what to do.

A It's not possible to just plug in a printer and expect the Amiga to use it immediately. You need to tell the Amiga what type of printer you have so it knows how to communicate with it. Do this by using Preferences (on 1.3-based Amigas) or two facilities in the Workbench 'Prefs' drawer called Printer and PrinterGFX (on 2.0-based Amigas).

But before you can go any further, you need a file called a Printer Driver which acts as a sort of translator between the Amiga and your printer. The Amiga only generates a single set of printer codes which the printer driver takes and then translates into the codes that your printer can understand. If you are using a dot matrix printer, use either the EpsonX (for 9-pin printers) or the EpsonQ (for 24-pin printers) drivers. Printer drivers are held on your Workbench disk in a directory called 'Printers' which itself is in a directory called 'Devs'.

To install your printer, load up the appropriate Preferences program ('Preferences' for 1.3 and 'Printer' for 2.0) and then select the name of the printer driver from the list you will be presented with. Next, set the port which the printer is connected to – parallel or serial. Once this is done, select 'Save' and your printer will be installed.

Q Having already tried to install my printer using the Preferences program, I cannot find a printer driver for my particular printer. What should I do?

A Which printer driver you use depends on what printer you own. Chances are that there isn't a driver available specifically for your printer (although Canon, Star and Citizen printer owners can buy these direct from the manufacturers), so you will have to use a printer driver that is compatible with the emulation mode available on your printer. If your printer has Epson emulation (most do), then use either the EpsonX or EpsonQ drivers. Because of space limitations on the Workbench disk, not all the printer drivers that Commodore supplies are on this disk. You can find more drivers on your Extras disk. Just run the 'Install Printer' program on your Workbench disk to access them. If this also proves to be fruitless, then you may find a driver in the public domain libraries.

Q I cannot seem to be able to find a printer driver for my Postscript laser printer. Although *ProPage* will talk to the laser, I cannot print from programs such as *DPaint* and *Protext*. Please advise.

A PostScript is much different from conventional printer-control languages because it is a programming language in its own right. As a result, the software which drives a PostScript laser printer has to be specifically written to generate PostScript programs – *ProPage* is one example. There is no way of printing to a PostScript printer using the Amiga's standard printer driver system. If you want to print out pictures to your laser, the easiest way is to use *ProPage*. Create a page, drag out a picture box to the full size of the page, import the picture and then print out the page from within the program. You may find that your PostScript laser also offers an Epson emulation though – if this is the case, set it to Epson emulation and then use the EpsonQ driver from within Preferences.

Q What different types of printers are available for the Amiga? What are the differences between them and which is the best?

A There are three different types printer commonly available for the Amiga – dot matrix printers (DMP), inkjet printers (bubblejets are the same) and laser printers. What printer you should use depends on the type of work you want to print. In issue 39 of ***Amiga Format*** we covered printers in full, but for those of you that missed that issue, here's a summary of their pros and cons.

Dot matrix printers. Available in 9 and 24-pin varieties (the number of pins denotes quality – a 24-pin is better than a 9-pin), dot matrix printers are the most common form of printer available. They work by punching the character to be printed on to the paper through an inked ribbon, leaving the shape of the character on the page. Good for general text and graphics printing, although the quality of graphic printouts is questionable.

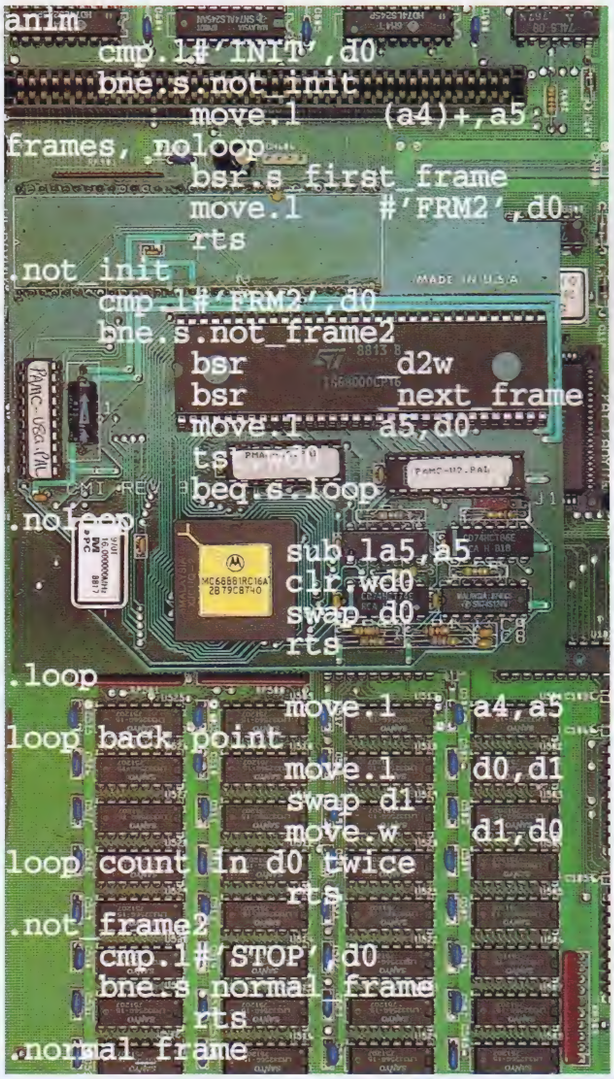
Inkjet printers. These work in a similar fashion to dot matrix printers, but instead of striking a ribbon with a set of wire heads, an inkjet actually sprays the dots on to the page through minute nozzles.

Although they are more expensive to run than dot matrix printers, inkjets provide laser-quality output without the high price, making them ideal for business letters, graphic printouts and low-budget DTP work.

Laser printers. For the ultimate in quality, you need a laser printer. Lasers work in a very similar fashion to photocopiers – that is, electrostatically charged ink particles are rolled on to a charged piece of paper and then heated to melt the ink particles to the page.

However, laser printers tend to be rather expensive, although they really are the only choice for DTP if you want high quality results.

Programming



MOST AMIGA OWNERS will try their hand at programming the Amiga, only to find that it's not that easy at all. The Amiga is a complex machine so programming on it is not going to be simple. Whether you choose to program in BASIC, C, Assembler or even *AMOS*, you will find a whole host of handy tips and solutions to all your programming problems right here.

Getting to grips with the workings of the Amiga isn't as difficult or as daunting as it sounds. The *AMOS* range of programming languages is very accessible at all levels.

If you and your Amiga just aren't speaking the same language, then why not let us help you get back on talking terms...

Q My friend who owns a 1.3-based Amiga has a program called AmigaBASIC which he claims comes free of charge with all Amigas. Having recently bought an A600, I cannot find this program. Where is it?

A The reason why you can't find AmigaBASIC is because it's not bundled with the Amiga anymore. To be honest, it was never particularly good for anything other than simple programs, so it's no great loss. If you need a BASIC programming language, then go for either *HiSoft BASIC* (for applications programming) or *AMOS Professional* (for just about anything else including games).

Although some people have criticised Commodore for not including a programming language with the machine, this isn't actually true. Under 2.04 you have a very powerful programming language at your disposal called ARexx. ARexx isn't documented in the Amiga manuals, so you will have to invest in a book to learn how to use it. I personally recommend *Using ARexx on the Amiga* from Abacus. It is available from AdamSoft ☎ 0706 524304.

Q What programming languages are available for the Amiga? I already own *AmigaBASIC*, but it's just not fast enough for my needs.

A Just about every language you can think of is now commonly available for the Amiga except for a few of the more obscure languages such as Occam and Cobol. The most commonly used languages are C, Assembler, Modula-2 and BASIC, although versions of Forth, Pascal and Lisp are also available. Which language you choose is really down to personal preference and the type of programs you want to write. If you want to write high-speed games, then Assembler is the only choice (although Europress' *AMOS* is also worth investigating). For serious applications programming, go for C or assembler.

Q Is it possible to program the Amiga's hardware and operating system routines from AmigaBASIC?

A It is possible, but I wouldn't advise it simply because AmigaBASIC isn't really up to the job. On your 1.3 Extras disk you will find a series of '.bmap' files which are used to access the Amiga's operating system routines. These routines employ some complex parameters, so you will also need a good book to explain which parameters are needed and how they should be passed (as a byte, as a byte pointer, a word or long word). Do yourself a favour – buy a 'proper' programming language if you want to do this sort of thing. I recommend C for writing code that accesses the operating system routines.

However, programming the Amiga's hardware is a different ball game altogether. All you need are the 'POKE' and 'PEEK' instructions which can be used to read and write values to the hardware registers. But don't expect a massive speed increase in your code – although the hardware can run very fast, your programs will still be held back by *AmigaBASIC*'s slow speed of operation.

Q Is it possible to get a program written in AmigaBASIC to run from a bootable disk without having to load the interpreter first, or forking out £100 on *HiSoft BASIC*?

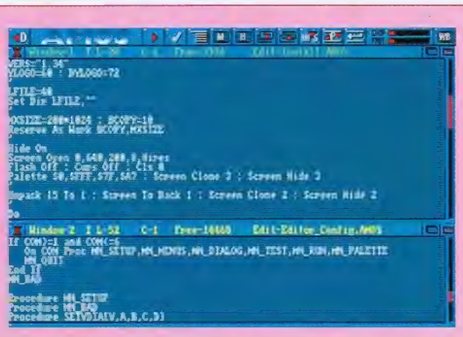
A Yes. All you have to do is to add the line 'AmigaBASIC <filename.BAS>' (<filename.BAS> being the filename of your AmigaBASIC program) to the StartUp-Sequence of the boot disk. Note that the AmigaBASIC interpreter must also be copied across into the root directory of the disk for this to work.

Although this method will work, the AmigaBASIC Interpreter is quite large and it runs programs very slowly, so I still think that you may be better off investing in a copy of *HiSoft BASIC*. Version 2 should be out by the time you read this, so get on the phone to HiSoft ☎ 0525 718181.

Q I'd like to be able to write my own games, but I'm not too brainy so I think that assembler will be a bit of a non-starter. Are there any other languages available that will do the same job but aren't quite so complicated?

A If you want to write arcade games of commercial quality that require large sprites and very fast movement, then you'd be best off swotting up on assembler language. No other language even comes close to the speed of assembler which is why all professional games programmers use it. If your needs are a bit humbler though, then check out *AMOS Professional* from Europress software. *AMOS*, which is based around BASIC, provides direct support for high-speed hardware scrolling, blitter objects, sampled sound and animation through a series of simple-to-use commands. What's more, a compiler is also available which will enable you to create stand-alone games.

If even *AMOS* seems too complex, then why not take a look at *Easy AMOS*. *Easy AMOS* was designed with beginners in mind and is therefore very easy to use. It will enable you to create pretty much the same results as its big brother, although a few of *AMOS*' more powerful features (its AMAL animation language, for example) have been stripped out to keep things as simple as possible.



If assembler is too much to handle, *AMOS Pro* could be just the thing to get you programming your own games.

Is your machine eating RAM more quickly than you can provide? Upgrading isn't always as easy as it seems, so you might need a helping hand...

Expansion Memory

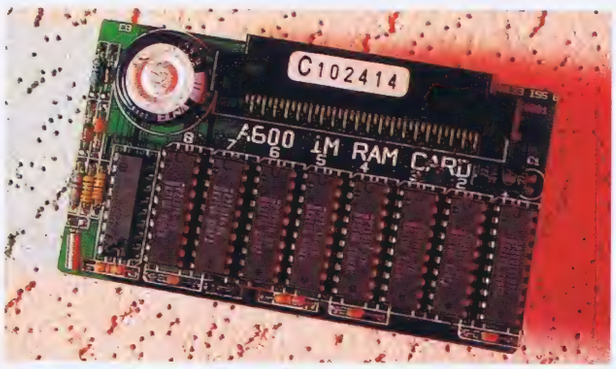
Hard drives

Keep your hard drive driving fast and far into the future with these handy hints on safe data storage...

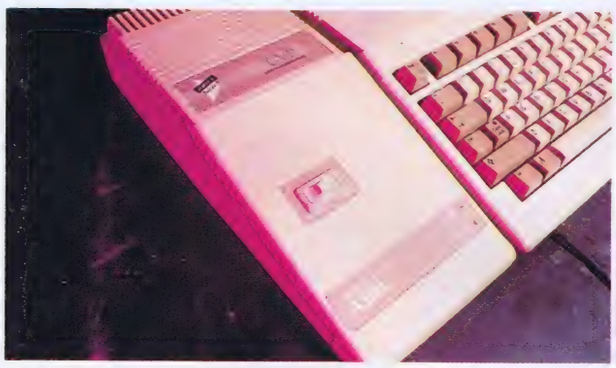
ALTHOUGH ALL AMIGAS now come with at least a 1Mb of RAM as standard, you will soon realise that even a megabyte isn't enough for hungry applications such as graphics, sound sampling and DTP. As many users have discovered, however, adding extra RAM isn't as straightforward as it may first seem.

Q Although my Amiga has 1Mb of RAM, when I load Workbench it tells me that I only have approximately 700k. Where's the rest gone?

A As you already know, Workbench must be loaded from disk every time you wish to use it. And, as far as the Amiga is concerned, it is simply just a program like any other. As a result, it too is held in RAM which explains precisely where all that extra memory is going.



Applications eating up all your memory? The Amitek A600 memory expansion board will give you an extra 1Mb to work with.



Hard drives provide the ultimate in storage capacity – even the cheapest of hard drives can hold at least 40Mb of data.

FOR THE ULTIMATE in convenience, you need a hard drive. Hard drives can store considerably more than a standard floppy disk and will even load and save files much faster than the zippiest disk drive. Find out how you can keep your drive hard drivin' for years to come.

Q What is a hard drive? Is it the same as a floppy drive? If not, what's the difference and why are they so expensive?

A Unlike a floppy disk, hard drives are what is known as 'fixed media'. That is, a single drive is used to store all your data. Although this may sound limiting, hard drives are much better than floppy disks because they can store considerably more data than the floppy and will load and save files far more quickly. While an Amiga floppy can only hold 880k of data, even the cheapest hard drives these days can hold at least 40Mb of data (that's over 45 disks' worth of data).

Q I have just sold my A500 and bought myself a new A600. I now have a spare 512k RAM expansion which I'd like to connect to my A600. Is this possible?

A You can relocate the chips on to a different board providing the board uses the same type of RAM chips, but I would be very surprised if you could find such a board. Your best bet is to sell the board and put the money towards a new RAM expansion.

Q Which type of RAM expansion should I buy for my A500 – an oversized trapdoor expansion or one that connects to the side of my machine?

A If your machine is still under guarantee, then you will be better off going for a RAM expansion that connects to the side of your machine. The Amiga's trapdoor connector is only designed to handle 512k of expansion RAM, so manufacturers have had to employ a bit of hardware trickery to get the Amiga to recognise the extra RAM on oversized trapdoor expansions. This usually requires you to open up your Amiga to carry out a hardware modification, so don't even think of buying this sort of board unless you want to invalidate your guarantee. The RAM inside a side connector RAM expansion generally tends to run faster too, although the difference is very slight.

Q Is it possible to connect the trapdoor RAM expansion from an A500 to an A1500 or A2000? I want to upgrade.

A There's a simple answer to this question – no. It's physically impossible.

Q Is it necessary to park a hard drive before switching off an Amiga?

A Most modern hard drives offer auto head parking as standard, so its technically not necessary to manually park the drive yourself. That said, it's still a good idea to get into the habit of parking a hard drive yourself just to be absolutely safe.

Q Why is it that hard drives always seem to slow down after a few months' use? Is there anything that I can do to rectify this problem?

A Hard drives slow down after continued use due to what is known as 'fragmentation'. Fragmentation happens when a drive starts to get full. Because the files on the drive are not neatly arranged to make optimum use of free space, it is often necessary for the hard drive controller to split larger files up into a series of smaller files. Although this operation is totally transparent to the user, it can sometimes result in a noticeable decrease in speed simply because the files have to be pieced back together when they are reloaded. To cure this you will need a program such as *QuarterBack Tools*. It's available from HB Marketing ☎ 0753 686000.

Q What are the differences between SCSI, IDE and XT hard drives? Surely all hard drives are the same?

A Although the magnetic disks inside a hard drive are the same, the drives themselves vary depending upon what type of connectors and control systems they use. SCSI and AT-IDE are the fastest and most common types available for the Amiga, while the XT standard is now rarely used simply because it was so damned slow (early A590s used XT drives!).

The GVP A530 accelerator can seriously speed up your Amiga as well as providing up to 8Mb of RAM and a hard disk drive of up to 120Mb.

Accelerators

If you're using some hefty programs, then get your Amiga upgraded. You'll save your self a lot of time, patience and effort...

AT THE HEART of every Amiga is a central processor that acts as the brain of the machine. Although the Amiga's standard brain, the Motorola 68000, is a pretty mean performer, it can still leave you waiting during heavily maths-intensive applications such as ray tracing and solid modelling. For your reading pleasure, we present a pot-pourri of handy hints and solutions dedicated entirely to speeding up your Amiga.

Q What type of processor does the Amiga use and how fast is it in real terms? Is it possible to speed it up?

A The Amiga uses a Motorola 68000 running at 7.14 MHz, the same processor that is used inside the Atari ST and early Apple Macs. The 68000 is growing a bit long in the tooth these days, so it's not surprising that Motorola has since released faster and more powerful processors based around the 68000, the latest of which is the 68040. All you need to speed your machine up is a processor accelerator card that uses one of these faster processors.

Q What's the difference between a 68020, a 68030 and a 68040 processor? Which is best?

A Unlike the 68000, all three of the processors you have mentioned are true 32-bit processors. The 68020 was the first to arrive, closely followed by the 68030 and then the 68040. In general, each is faster and more powerful than the last. To make things even more confusing, though, Motorola is soon to release the 68050, an even faster processor than the 68040.

Q What is a maths co-processor?

A As the name suggests, a maths co-processor is a separate processor in its own right that has been designed specifically for the task of handling number crunching many times faster than a CPU chip such as the 68000. It is therefore ideal for maths-intensive applications such as ray tracing and solid modelling. There are two types available – the 68881 and the 68882. The 68882 is the fastest of the two and is generally used in conjunction with either a 68030 or 68040 processor.

Q If I add a faster processor to my machine, will it speed it up significantly? If I buy a 16MHz 68020, will my machine run twice as fast?

A If you add a faster processor to your machine you will notice a speed increase, but the processor card still won't be running at its full potential unless you add some 32-bit RAM. Because the Amiga's RAM is only 16-bit, true 32-bit processors such as the 68020 will be held back. Most processor cards provide slots for 32-bit RAM. Therefore you need to make sure that your processor card comes with at least a megabyte of 32-bit RAM if you wish to see any significant increase in speed.

Q Will upgrading to a 68010 speed up my Amiga? I have seen these for sale for as little as £10.

A To be perfectly honest, upgrading to the 68010 is more hassle than it's worth. Although you will get something like an eight per cent increase in speed, you may find a lot of software refuses to work with this processor simply because certain instructions within the 68010 are what is known as 'privileged instructions' (trying to move the contents of the status register to an address will crash the machine, for example).

Q I've recently bought a processor accelerator to speed up my ray tracing, but I've since found that some of my games don't work with it. What's wrong?

A I'm afraid you're suffering from what is generally known in the trade as 'shoddy programming'. That is, the programmers of the games that crash on your machine wrote the games in such a way that they are incompatible with anything other than a bog-standard 7.14MHz Amiga. If you really want to keep these games, I'm afraid all you can do is to sell the card and buy one that offers a 68000 fallback mode.

Q What is a memory management unit (MMU)? Is it worth having?

A Memory Management Units are really a bit of a con as far as the Amiga is concerned. Although both the 68030 and the 68040 actually have them built in as standard, don't even consider buying one unless you intend to run something like the UNIX operating system on your machine. MMU's are for use on multitasking operating systems that have been specifically written to take advantage of them. Although the Amiga multitasks, it uses what is known as 'software memory management' which basically means that the Amiga mimics an MMU through some very clever programming. To get the Amiga operating system to take advantage of an MMU would require major rewriting of the OS code.

Q Why are processor cards which use the same chip (the 68030, for example) rated at different speeds? I've seen adverts for 030-based cards running at 16MHz, 25MHz, 33MHz, 40MHz and even 50MHz. If all these cards use the same chip, shouldn't they all run at the same speed?

A Processors are like cars – although an Escort is basically an Escort, there's a great deal of difference between an Escort 1.1 and an Escort Cosworth. Like car manufacturers, companies like Motorola are continually enhancing their products, often resulting in faster chips becoming available. Take the 68040 – although only a 25MHz version is currently available, Motorola is shortly to release a 33MHz version of the same chip.

Another factor that will dictate the speed of a processor card is the speed of its timing crystal. On some processor cards, it's possible to speed the processor up still further simply by fitting a faster timing crystal (a 25MHz A3000 can be speeded up to something like 28MHz using this method, for example).

Jason Holborn, technical writer for **Amiga Format**, sees incompatibility as one of the Amiga's biggest dangers and warns that it's about to get worse...

"Fits of frustration"

1992 HAS MOST definitely been a very exciting year for the Amiga – the past 12 months has seen the release of Workbench 2, the Enhanced Chip Set, 24-bit colour cards and faster accelerators, not to mention the arrival of two new Amigas in the shape of the A500 Plus and the new A600.

It's not at all surprising, then, that 1992 has also been a year in which the level of frustration among both new and experienced Amiga users has intensified. Add to this the sort of problems that we've always had to suffer, and it's not all that surprising that more and more new users and techies alike have been applying for hair transplants after suffering fits of frustration.

Through our Answerfile and Workbench pages, we've noticed that more and more users are stumbling across the same old problems time and time again. These basically break down into two areas – incompatibility problems and old favourites such as installing a printer. Both of these are the sort of problems that have plagued Amiga users from day one, but they've been aggravated beyond belief by the arrival of the new Amigas.

Even the techies have had to suffer their fair share of frustration caused by new developments in the Amiga range. Take software compatibility problems caused by the arrival of Workbench 2 on the A500 Plus and A600, for example. Although software and hardware developers are now starting to get their acts together, there were quite a few developers threatening to throw themselves off the nearest high-rise building when the A500 Plus first hit town. Even I suffered quite a number of sleepless nights when the software that was installed on my hard drive refused point-blank to work after I upgraded to Workbench 2.04. Let me assure you, though, even the techies can get caught out occasionally.

Such problems are bound to happen when an operating system as complex as the Amiga's goes through the kind of extensive overhaul that went into Workbench 2. So who's to blame? Is it Commodore's fault for producing an operating system (OS) that wasn't totally compatible with everyone's software? Or is it the fault of developers for not writing code that would work on future operating system revisions?

In some ways, it's a bit of both. Commodore has been warning developers that they should always stick to programming guidelines ever since they released the A1000, but even certain titles that followed these guidelines fell over on 2.04-based Amigas.

Another problem is that Commodore keeps revising the guidelines – I remember back in the days of the early A1000s, Commodore actually warned developers that they should never program the Amiga directly. Back in those days, programming the Amiga's hardware through assembler code was positively shunned. These days, of course, such a practice is commonplace.

Programming the Amiga via the operating system routines is fine for applications programming, but the OS routines just are not fast enough for arcade games, hence the reason that the first thing most games programmers do within their code is to boot the operating system out of the window and into the trash can.

Programming the hardware directly not only provides far faster code operation and more flexibility, but it is also a darned sight easier. Just take a look at some of the arcade games that we have around today – if games programmers were to write their wares through the operating system routines, the chances are that a game such as Team 17's impressively coded *Project X* may never have seen the light of day.

Workbench 2 hasn't been totally to blame for the incompatibility problems that users have had to suffer. As our recent reader survey vividly shows (issue 37), more and more of you are expanding your machines beyond their basic specifications. With the prices of such things as RAM expansions and hard drives dropping faster than share prices, add-ons which were previously dream material are finally within the reach of the average user. A much greater percentage of you are adding extra RAM, hard drives, processor accelerators and graphics boards to your Amigas, only to find that products from different manufacturers don't always see eye to eye.

These problems usually come down to a simple case of developers having to work around restrictions in the Amiga's hardware design to get their products to work faster and better. Most developers don't want to just make a quick profit – they genuinely want to give you the best possible product that you can buy. If this is only possible by employing a bit of trickery that may upset other products, then that's a risk they are willing to take.

If developers were to produce products that got the job done but little else, the quality of Amiga add-ons would never really advance. Let's face it, GVP didn't have to build in support for such things as PC emulators in their Impact HD8+ drive. Neither did Power Computing have to build in anti-click and backup hardware into their external drives – but they did, just to give you the choice of a superior product.

Of course, the peculiarities of the operating system and individual product incompatibility can compound, making the task of sorting it all out even more of a headache. The best thing you can do to save yourself this sort of hassle is to check compatibility before you buy. OK, it's not always possible to know that the hard drive you buy today will be compatible with the processor card you eventually intend to buy, but at least you'll be cutting down considerably on the amount of frustration you'll have to suffer in the future. Another good bet is to always keep your eye on the reviews and news section within the pages of ***Amiga Format*** – we've got pretty porky Amigas ourselves, so if a particular product is going to fall over, you can bet we'll notice it first.

I'm afraid the problems of incompatibility aren't over yet though – if you thought 1992 was bad just you wait for the arrival of Workbench 3 and the Double-A chip set. Amiga development is accelerating at such a pace these days that conundra like those I've discussed earlier are going to become even more evident.

Commodore itself has already indicated that we can expect to see even more software falling over – such is the price of progress, I suppose. Let's just hope that both Commodore and developers have learnt from the mistakes of the past and have started producing software and hardware that will run on future Amigas. Personally though, I think we're still in for a bit of a bumpy ride.

> "Although developers are starting to get their acts together, there were quite a few of them threatening to throw themselves off the nearest high-rise building when the A500 Plus first hit town. Even I suffered a few sleepless nights"

SETTING THE SCENE

The Eighties was a decade of consolidation. Nothing original came out of the decade at all, we just developed old ideas. But we'll pay the price in the Nineties, 'cos we won't have anyone coming up with anything new any more.

Thus spake Tim Smith, *Amiga Format* features editor, in the upstairs room of Bath pub Hatchetts, the magazine's favourite lunchtime haunt. Over yet another solid and filling meal (egg, chips and beans), we were arguing about the movement and the future of technology.

"No. You're completely wrong," objected Damien, in his usual conciliatory fashion. "Just think about the Ford Sierra. When it came out, everyone thought it was just an ugly blob, the 'jelly mould'. But now everyone's driving cars with rounded, aerodynamic shapes. That sort of change is significant. It's technology making an impact on society."

"Wow, the Ford Sierra. Is that all we've got to show for a decade of technology?" objected Tim. "What about the CD player?" Karl pointed out. "What about video, which really took off in the Eighties, or the camcorder? What about the home computer, which wasn't really heard of until 1982?"

Tim was resolute. No inventive leaps had been made of late, he suggested, and weren't likely to be. But the rest of us agreed that, while nothing has changed greatly for the last five or six years, there was a lot of emerging technology – stuff that has been worked on, perfected and is almost ready to go. And there's plenty of opportunity to combine existing technology in new ways.

This article is a result of that discussion. It's a tale of the science-fiction world of the next two or three years, during which we could see a great many changes in our society as a result of technological advances that have been made during the last two or three years. Welcome to the future...

CD, FMV, DIGITAL VIDEO

Video on CD is already a reality. OK, so you can't buy it. But take our word for it – it's here and it will be in the shops very soon.

You would have to be incredibly stupid to go out and buy one of those 12-inch laserdisc players which are currently being foisted on the Great British public once more. It's a desperate last attempt to get some kind of pay-back on the makers' investment before the whole laserdisc thing is blown out of the water in 1993.

The key to digital video is the 'MPEG FMV chip set', which has frequently been referred to in *Amiga Format* of late. But if you've missed the thread, all those abbreviations will need explaining, so here goes...

MPEG is the Motion Picture Expert Group, a bunch of scientists and technical experts who are funded by the major electronics companies of the world. Their job has been to come up with a way of making it possible to store video images digitally, on a Compact Disc, and play the disc on a digital video player.

They've had to overcome one major obstacle – the amount of data that needs to be transferred. Television runs at 25 frames per second (25 different images are displayed every second to give the illusion of movement) so you need to load that amount of pictures every second from your CD. A full-colour TV picture is a pretty large data file, however, and the problem is that a CD player simply cannot transfer data as quickly as is necessary.

The solution is to compress the data on the disc, then decompress it again after it's been loaded from the disc. This is what MPEG has been working on, and in August this year the group finally got it right. The result is the FMV chip set. FMV stands for full-motion video (though it actually refers to full-screen, full-motion video – it's easy to do, say, quarter-screen motion because the smaller the picture is, the less data there is). The FMV chips will be made available, at a price, to any electronics company that wishes to incorporate FMV into its new machines.

Currently, though, the problem is solved, but the small matter of getting that technology into a production machine remains. Just a couple of weeks ago, on breakfast TV, it was claimed that Philips will have FMV incorporated into its CD-I machine by Christmas. This is, to say the least, pretty unlikely.

What is certain, however, is that by Spring next year digital video players will be a possibility. Using the MPEG techniques, no more than 78 minutes of video footage and stereo soundtrack can be squeezed on to a normal 12cm Compact Disc, so feature films may have to come on two-disc sets – with a break to make a cup of tea in the middle.

Digital video will have immense advantages. For starters, CDs are much less susceptible to wear and tear than videotapes and so are bound to be more popular as a medium, but there are other benefits. Because each frame is stored individually, the freeze-frame will be absolutely perfect. And if you want to see a particular scene, you will be able to jump straight to it, using timings written on the sleeve-notes. Pretty amazing, eh?

So the technology for digital video is lined up and ready to go. The only possible reasons why it might not be available next year are economic. It's been suggested that the Japanese economy is in a regressive stage where new products are not likely, and product ranges will shrink to emphasise the successful ranges.

It's also true that in both music and video, the big Japanese firms have been getting heavily into controlling the software side. Sony, for example, now owns a couple of the largest record companies and film studios. If it decides that it doesn't want to have a new format for video out in 1993, it might not happen.

But otherwise, digital video on normal-size CDs will be here next year. And there's one last consideration worth bearing in mind. If you have an Amiga with a CD drive now, it's a hi-fi CD audio player as well. If you have an Amiga with a CD drive and the FMV chip set in next year, it could be an Amiga, a CD audio player and a digital video player all rolled into one. And that would be amazing.

Actual Re

The future of tech

Welcome to a special edition of the bit of **Amiga Format** that turns beyond the bizarre, computer-created world of the Amiga and discovers an even more bizarre reality in everyday life. Yep, it's a funny old game, and truth certainly is stranger than fiction. But for now let's get a little bit serious: let's take a look at what life could be like in the future; let's see how science-fiction technology could enter our living rooms soon.

IDEAS THAT WON'T (OR SHOULDN'T) TAKE OFF

Digital radio, which uses similar compression techniques to FMV, is completely unnecessary. Radio already sounds as good as it needs to, so the only reason for it must be to sell more new radios.

Home shopping is a doomed concept, simply because the vast majority of us enjoy the activity of going out and spending money. We even window-shop when we can't afford to buy anything!

CD magazines and books, while they are going to be exciting in some ways, will never be as popular as the printed article simply because people like books as objects.

Holographic TV is one of the real clichés. Sadly it will never, ever happen simply because the techniques of real-time holographic capture of images and projection of those images are impossible to crack. Sorry 'n all.

VIDEOPHONES AND COLOUR FAXES

An obvious feature of most science fiction movies for the last 30 or 40 years, the video telephone is no longer just a pie-in-the-sky idea: it's here. Last month, BT held a press conference to announce the first trials of its new videophone system.

Will it take off? Well, common sense says it won't, or not in a hurry. Unlike the fax machine, which makes the transmission of a visual image an invaluable part of modern business communication, it has no real practical application. It's just a nice, friendly idea which will become popular in the home only when it's just as cheap as a voice-only phone. Like many other technologies of the moment, the video phone is made possible by massive data compression. The same technology makes the colour fax a real possibility: especially when you consider that the JPEG (Joint Picture Expert Group) compression system that squeezes a 1Mb image into 40K is already in wide use. Imagine hooking a colour scanner with JPEG compression up to a colour printer on the other end of a phone line and you've got a colour fax.

Then again, attach a colour scanner to an Amiga, the Amiga to a modem, squirt images down to another Amiga fitted with a colour printer and you could have a colour fax system tomorrow. Any takers?

Sampling, not recording

We're used to digital audio with CDs taking over and we know that analogue audio cassettes won't last. We've seen improved cassette recording systems come and go – various forms of noise reduction, metal tapes – but they can't hold back the tide of progress and now we're finally seeing the emergence of two digital recording media.

Philips has its digital compact cassettes, while a rival system that records to miniature floppy disks is being pioneered by – correct me if I'm wrong – Sony. But will they take off? Who can say.

Both systems involve magnetic media which are doomed eventually to be replaced by read-write CD. But the concept they pioneer is interesting, because digital recording is actually sampling.

This means it's possible that as well as simply recording on a high-end digital system, you will be able to manipulate the sound too. Hi-fi buffs will be able to buy an expensive system and then tinker with the mix, creating a sound they prefer. You will be able to create your own remixes of your favourite songs. If you have a collection of old vinyl records, you will be able to record them and then filter or edit them to remove the clicks and scratches. In other words, interactive music is just around the corner.

Right: Philips' DCC (Digital Compact Cassette), the first widely-available digital recording system.

Flat-screen, wide-screen, high-definition TV

For a substantial period of time now, scientists have been working on various technologies for flat televisions that you can hang on a wall. The route to success is akin to that used in LCD screens, but for various reasons would have to be very different on a large television.

The preferred route has been through the development of chemicals that change colour when an electrical current is passed through it. These could be switched rapidly to give a TV picture. Since the early 1980s, researchers have been working on this sort of thing at Oxford University, for example, though we have yet to hear of any success or a commercial application.

But flat-picture TVs will come. They will probably be accompanied by flat-picture electrostatic speakers of the kind that have been available (at a price) to hi-fi buffs for many years already. In a couple of years' time, we reckon, you will be hanging your output devices – TV and hi-fi speakers – on your wall.

The other big change in TV is already on the way. High-definition TV (HDTV), which doubles the pixel resolution of normal TV for a much more precise image, is on the way already. And wide-screen TVs, which mirror the 'letterbox' format of cinema screens, are also a certainty and will probably be the standard format for HDTV.

One interesting point, which we've never yet heard discussed, is that computer games will need to be able to take advantage of wide-screen formats in the future, so somebody will steal a march by including an overscan display mode at the right resolution in their computers. Will it be Commodore?

And if you imagine what a difference it could make to gameplay, say, in a sideways-scrolling shoot-'em-up, where you could see the enemies a lot earlier, wide-screen TV could in fact cause the biggest change yet to computer games – which haven't really changed since their invention in the late Seventies.

The major delay to HDTV is going to be establishing a new broadcasting standard, which involves not only immense technical difficulties – the usual business of not being able to shift enough data quickly enough – but also incredible bureaucratic problems, with Europe-wide agreements needing to be negotiated. It will come, but we give it three years at least.

Home video rental

The FMV chip set also makes it possible for 'pay per view' cable TV channels to take the place of video rental, so much so that Commodore UK's MD Kelly Sumner confidently predicts that video rental shops will die out inside three years. Already, a trial is being conducted in the USA for a system where you dial your order for whatever movie you want, from a list of two or three hundred.

Electric cars

It's already known that General Motors in the States has a prototype electric sportscar that can do 120mph and has a range of 250 miles. The main psychological barrier with electric cars, however, is that they need to be recharged, and that takes time. Who wants to wait at a petrol station for four hours to fill up the tank? However, what people tend to forget is that you don't have to wait for the batteries to be recharged.

All you need is a network of electric stations across the country, just as you now have petrol stations. When the warning light shows you're low on juice, you just pull in and swap your battery pack for a charged one. You wouldn't pay the price of the battery, because that would be owned by the power company, like milk bottles are owned by the dairy. All you would pay for is the electricity it contains.

This system is technically and economically viable right now, and the way unleaded fuel pumps have sprung up across the country over the last couple of years shows that a radical change can be organised easily enough. All it needs is an incentive from the government. But could the multinational oil firms afford to let it happen?

Interactive TV – the true story

Philips is already making a pitch for interactive TV with its CD-I machine and the advertising slogan 'Without CD-I, you're only using half of it'. Frankly, though, from what we've seen to date, the cause of interactive television is not too likely to be pioneered by Philips CD-I.

The best example of interactive television to date is, in fact, the computer game. The only significant development beyond that has been the educational exploration game, a genre pioneered excellently by BBC Multimedia's 'A Bun for Barney' on Amiga CDTV, and better yet by the amazing 'Sesame Street' on Philips CD-I.

But if 'Sesame Street' on CD-I is the height of interactive TV we might as well give up on the idea now. So how are we to start using the other half of our telly?

What most people seem to expect of interactive video is a vague notion of taking control over events in a normal fictional narrative – 'playing the part' of Arnie in 'Terminator 2', for example. At best, this option is already covered – it's computer adventure games. A 'Monkey Island 3' on Amiga CD, for example, might feature full recorded speech and lip-synchronised animation, on top of full HAM graphics that are darn near as colourful as a TV picture. And other games are already being developed which involve actors filmed in full video sequences which will be incorporated into the game.

At its worst, an interactive movie would be like one of those adventure game books which enjoyed brief popularity with young people lately – 'if you want to go West, turn to page 21' type of thing. Naff indeed. Plus the fact that no-one actually wants to take control over the narrative of a movie, thereby abandoning if not the twists and surprises of the plot, then certainly the twists of emotion experienced when we want a happy ending, but the ending is poignantly sad.

So is there a future for interactive television? We believe so, and it's going to be of more relevance to live television than it is to the passive medium of a narrative video or film. When broadcasting can handle the quantities of data needed, choice will be the key.

The medium is likely to be pioneered by a major sports event – perhaps the 1994 World Cup soccer finals in America. Imagine if, rather than having to sit there and watch whatever the director decides to show you, you are equipped with a remote control that features a joystick, allowing you to switch instantly to any of eight different camera angles and viewpoints filming the match. The views could be shown picture-in-picture down the side of the screen, for you to choose from. This way you could form your own picture of the pattern of play, concentrating on the striker making runs off the ball, for instance, rather than on the midfielder about to make the pass. And you would never have to think 'did that go in?' because you could switch to a view where the 25-yard shot obviously clears the post by two feet.

The same could be applied to commentary: if you take a dislike to the clumsy comments of the guy you're listening to, switch to a second or third commentator instead.

Whereas the concepts for other forms of interactive TV are somewhat over-ambitious considering today's technology, this is realistic and possible. All eight views would be fed to your TV in the normal way and stored in RAM, so there would be no time delay involved in picking what you wanted to see. If interactive TV has a future, this will be where it starts.

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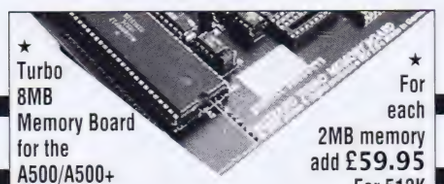

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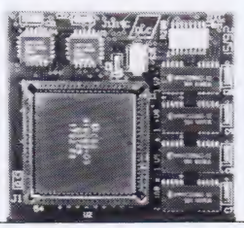

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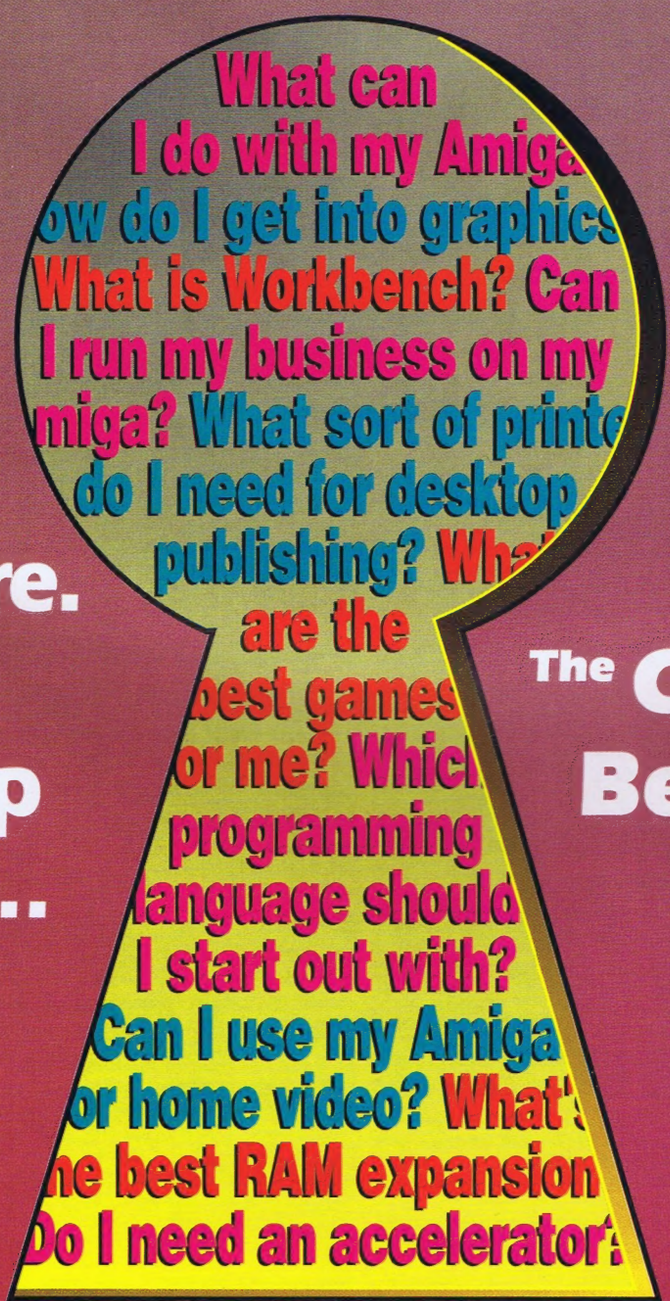

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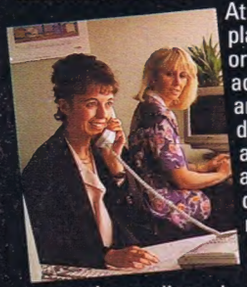
Our friendly, highly trained sales team will ensure that your order is dealt with efficiently and with the minimum of fuss.



At the time of placing your order we will advise you of anticipated delivery time and answer any other queries you may have regarding your purchase. All major credit cards accepted.

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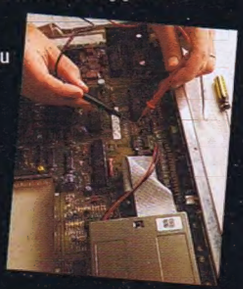
The Phoenix product helpline ensures that all our customers benefit from the highest level of after sales technical support.



We also offer advice to help you in choosing exactly the right product for your requirements thus eliminating the possibility of an unwanted or unnecessary purchase.

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Once you have made the decision to purchase from Phoenix your order will be dispatched promptly and without fuss.

Using one of the countries leading courier services ensures that your goods arrive on time, intact and in the same condition they left our stock.

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'THE WILD, THE WEIRD & THE WICKED'

1 Mb A 600 as standard and includes the excellent value Software titles: Deluxe Paint III • Formula One Grand Prix • Putty • Pushover

...ONLY £339.99!

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...ONLY £484.99!

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The stand-alone A 600 is compact, semi portable, fully featured and can be purchased in the following configurations:

A 600.....**£274.99**

A 600 HD..... NOW ONLY **£429.99**

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A 600 RAM EXPANSION

FEATURES INCLUDE: - Trapdoor installation Will not invalidate your warranty • Battery backed real time clock • Long life lithium cell • Enable/disable facility • Full installation instructions • Made in U.K. • Complete with famous Phoenix 2 year warranty.

Phoenix PA 601-populated-1Mb.....**£44.99**

Phoenix PA 601-unpopulated-0Mb...**£24.99**

Phoenix A 600 ROM Sharer.....**£29.99**

Keyboard switchable!

PHOENIX AMIGA Power Pack

When purchasing any Amiga you can also buy our unbelievable value PHOENIX POWER PACK, which includes over **£100** of quality software and accessories. Probably the best bundle around, just look at what you get!

SOFTWARE

Man Utd Europe • Kick Off 2 • Captive
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ACCESSORIES

Fully Microswitched Joystick
50 Capacity 3.5" Disk Box
8mm Mouse mat •10 Phoenix Branded Disks with Labels

Phoenix Power Pack.....**£39.99**

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2.04 Workbench Includes: Deluxe Paint 3, Platinum Works, Home Accounts, Toki, Puzznic, x Elf, Amiga Format Book and Joystick

AMIGA 1500..... ONLY **£539.99**

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This ***SPECIAL OFFER*** **combines both the A1500 (as shown above) and the legendary Commodore 1084 SDI Monitor.**

AMIGA 1500+1084 SDI.....**£729.99**

Limited Stocks Only!

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GVP PC-286 16MHz.....**£239.99**

Vortex A Tonce Plus 286 (16MHz)....**£214.99**

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KCS Powerboard.....**£184.99**

KCS adaptor for 1500/2000... ONLY **£59.99**

MONITORS

PHILIPS 8833Mk II..... ONLY **£194.99**

Colour Stereo Monitor now including **'Lotus Turbo Challenge'**, and 1 years on-site warranty.

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All monitors are supplied with a FREE cable for connection to your Amiga.

MONITOR ACCESSORIES-

14" Dust covers.....**£4.99**

14" Tilt & Swivel stand.....**£13.99**

Anti-Glare filter screen.....**£19.99**

A4 Copy Holder.....**£12.99**

HARD DRIVES A500

GVP IMPACT SERIES II Hard Drives, the fastest Hard Drive/Controller for the Amiga. Features Game Switch, external SCISI port, FAAASTROM SCISI Driver, GVP's custom VLSI chip and internal RAM expansion up to 8 meg! Units use high specification fast-access QUANTUM Hard Drives coming with **2 yr. guarantee.**

A500-HD8+ 52 Mb (Unpopulated).....**£329.99**

A500-HD8+ 120 Mb (Unpopulated).....**£424.99**

A500-HD8+ 240 Mb (Unpopulated).....**£689.99**

ROCTEC

PRICE CRASH!!!!

Roctec "Rochard" hard drives now at unbelievably low prices!!

ROCTEC 40 MB.....**£259.99**

ROCTEC 60 MB.....**£294.99**

ROCTEC 80 MB.....**£329.99**

ROCTEC 120 MB.....**£364.99**

Featuring Quantum/Connor drives-very fast access times-(19ms or better) • expand up to 8 Mb using 1 Mb Simms only • 1 year guarantee • slimline design ideally colour matched to the A500.

ROCTEC (controlletr Only).....**£164.99**

Very similar in style and appearance to the GVP HD8+ but unpopulated and without a hard drive so you can fit your own. Please specify IDE orSCISI.

EXTRA MEMORY-Only £25.99 when bought with drive!

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Series II 120 Mb Hard Disk and RAM card...**£399.99**

Series II 240 Mb Hard Disk and RAM card.....**£639.99**

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GVP COMBINATION ACCELERATORS & HARD DRIVES-The ultimate expansion product for the Amiga 500!

A530 Combi 40MHz + 52Mb Hard Drive.....**£659.99**

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A530 Combi 40MHz + 240Mb Hard Drive.....**£979.99**

A530 68882 Co-Processor.....**£204.99**

ACCELERATORS 1500/2000

GVP G-Force 030-25MHz + 1Mb.....**£545.99**

GVP G-Force 030-40MHz + 4Mb.....**£784.99**

GVP G-Force 030-50MHz + 4Mb.....**£1099.99**

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1Mb Simm-32 Bit 60 Nanoseconds.....**£65.99**

4Mb Simm-32 Bit 60 Nanoseconds.....**£182.99**

PHOENIX A500 Plus 2 Meg RAM Upgrade Modules

A PHOENIX RAM module can expand your chip RAM up to 2 Mb by using the trapdoor expansion port. Extra RAM is necessary to unleash the incredible graphics capabilities of your Amiga. All our boards carry a full 2 year no quibble replacement guarantee. **It's never been cheaper to upgrade!**

1 Mb Fully populated RAM board.... NOW ONLY **£34.99**

1 Mb unpopulated RAM board.....**£16.99**

PRINTERS

STAR-

LC-100 Colour..... NEW! **£159.99**

9 PIN colour printer with paper parking, eight fonts and electronic DIP switches.

LC24-100 ..... NEW! **£189.99**

24 PIN with compressed data mode, 16 K buffer and 10 letter quality fonts,(with Star printer driver only).

LC-20.....**£134.99**

LC-200 Colour.....**£195.99**

LC24-20.....**£199.99**

LC24-200 Mono **£219.99**

LC24-200 Colour.....**£268.99**

XB24-200 Colour.....**£379.99**

SJ48 Bubblejet.....**£229.99**

Star printers come with one year warranty.

CITIZEN-

Swift 240 Colour..... NEW! **£279.99**

Swift 240 Mono..... NEW! **£259.99**

Swift 200 Colour..... NEW! **£219.99**

Swift 9 Colour..... SPECIAL OFFER **£179.99**

224 mono.....**£214.99**

224 Colour..... NOW ONLY **£229.99**

Swift 24e Colour..... NOW ONLY **£269.99**

Citizen printers come with 2 year warranty.

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Deskjet 500..... SPECIAL OFFER **£339.99**

Deskjet-500 Colour.....**£559.99**

HP printers come with 3 year warranty.

HP black ink cartridge **£24.99**

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AUTO SHEET FEEDERS-

STAR LC20..... **£57.99**

STAR LC200..... **£59.99**

STAR LC24-200..... **£62.99**

STAR LC24-20..... **£62.99**

STAR SJ48..... **£49.99**

PHOENIX PRINTER PACK-

Supplied with **ALL** printers containing 1.8m std. printer cable, printer ribbons/cartridge and 250 sheets of paper absolutely **FREE.**

PRINTER ACCESSORIES-

We have a large range of **high quality** printer accessories for all the printers we sell including: **dust covers from £2.99 • Ink cartridges from £13.99 • Mono ribbons from £3.50 • Colour ribbons from £7.99 • Printer stands from £7.99**

CALL 0532-311932 FOR MORE DETAILS!

CHIPS

AMIGA CUSTOM CHIPS

Kickstart 2.04 ROM.....**£34.99**

Kickstart 1.3 ROM....**£27.99** **Fatter Agnus 8372A**..**£34.99**

NEW Super Denise.**£34.99** **CIA 8520A**.....**£9.99**

MEMORY CHIPS

4 Mb x 9 (-70) Simm....**£99.99** **1 Mb x 4 (-80) Zip**.....***£34.99**

1 Mb x 9 (-80) Simm...**£27.99** **256k x 4 (-80) Zip**.....***£29.99**

256k x 9 (-80) Simm...**£12.99** **1 Mb x 1 DRAM**.....**£3.49**

256k x 4 DRAM.....**£3.49** *This price is for 1 Mb of RAM

These chips cover practically every popular memory expansion or Hard Drive system on the market for the Amiga ie. GVP, SUPRA, MICROBOTICS, COMMODORE

RING OUR TECHNICAL HELPLINE IF YOU NEED ADVICE

MEMORY EXPANSION

SUPRA 500RX the ultimate in Fast Ram expansion units. *(*Uses 256x4 Zips)*

8 Mb pop to 1 Mb*.....**£99.99**

8 Mb pop to 2 Mb*.....**£124.99**

8 Mb pop to 2 Mb.....**£149.99**

8 Mb pop to 4 Mb.....**£209.99**

8 Mb pop to 8 Mb.....**£309.99**

DISK DRIVES

All drives feature super slim design, enable-disable switch, thru port and come with a **1 year replacement guarantee!**

Phoenix Deluxe Drive.....**£47.99**

Roctec Roclite..... NEW! **£57.99**

This famous drive has now been upgraded to include Anticlick and Virus Checker

Replacement A 500 Internal Drive...**£39.99**

Disk head cleaner.....**£3.99**

VIDEO

The first col. digitiser for **under £100** from **ROMBO.**

VIDI-AMIGA 12 ..... ONLY **£89.99**

ROCGEN Plus.....**£129.99**

ROCKEY BY ROCTEC-Chroma key unit

Embed live video in graphics!

Phoenix Price.....**£269.99**

PHOENIX will be at the Future Entertainment Show Nov 5-8th Earls Court. Be sure to come and see us there and take advantage of some incredible show bargains!

ACCESSORIES

Zy-Fi Stereo speakers.....£37.99
Superb sound and excellent dynamics. These two-way stereo speakers are an Amiga standard-
Excellent companions on any gaming soiree!

Control Centre.....£34.99
Heavy duty construction,rubber edging, perfect colour match, makes an ideal workstation for the A500/A600

DATA SWITCHES-*(25 pin D type)*
2 way.....£15.99
3 way.....£17.99
4 way.....£19.99

STORAGE:
90 Capacity BANX.....£11.99
150 Capacity POSSO.....£16.99

Disk Box 10 Cap.....£1.99
Disk Box 25 Cap.....£2.99
Disk Box 50 Cap.....£4.99
Disk Box 100 Cap.....£6.99
Disk Box 120 Cap.....£7.99

"Thanks once again for your efficient service and patient advice."
S. Ward~ Norfolk

PHOENIX PRODUCTS

MOUSE/JOYSTICK SWITCH.....£13.99
Don't damage your Amiga's ports!This device saves wear and tear makes switchover ***FAST***, and does **NOT** require power unlike many others.

COMPUTER/VIDEO SCART SWITCH....£19.99
Flip between Video/computer signals at the push of a button.

AMIGA MUSIC

Attention all you music lovers! Phoenix have put together an unbeatable music deal for you this summer.

MUSIC-X Jnr....only £15.00
When purchasing either a Phoenix Stereo Sampler or Pro Midi 2 Interface
Please Note: this is a limited offer only while stocks last!

STEREO SAMPLER..... NOW ONLY £29.99
Combines ease of use with state of the art analogue to digital conversion technology.(inc. FREE sample editing software +audio lead)

PRO-MIDI 2 INTERFACE.....£24.99
This fully featured professional quality midi interface is very flexible giving semi-patch bay facilities. It has five ports in, out, thru and two switchable out/thru. (inc. FREE midi lead)

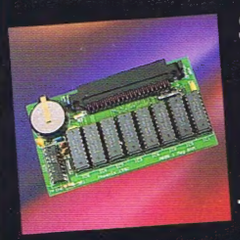
GVP DIGITAL SOUND STUDIO.....£54.99
High quality sound sampler for all Amiga Computers
Amiga Music Made Easy-Only from Phoenix!

TRAIL BLAZERS-WHAT'S NEW IN OCTOBER 1992!

In this month's "TRAIL BLAZERS" section we spotlight some of the best newer products and peripherals currently available for the Amiga.

ROCTEC ROCLITE
This famous super slim drive has now been upgraded to include Anti-click and virus checker - THE SECOND DRIVE THAT IS SECOND TO NONE
Phoenix price.....£57.99

CD ROM DRIVE-A570
This essential add-on has finally arrived, suitable for A500/A500+, A570 .
Phoenix price.....£339.99

PHOENIX 1Mb A600 UPGRADE

Simply the Best !
...£44.99

STAR LC-100 COLOUR
9 PIN colour printer with paper parking, eight fonts and electronic DIP switches.
Phoenix price.....£159.99

A600 SMART CARDS
Utilise the advanced technology of the A600 Smart Card Expansion slot with these NEW RAM Expansion Cards direct from Phoenix. Available in 2 Mb & 4 Mb cofigurations.
PA 6020-2 Mb £119.99
PA 6040-4 Mb £149.99

LEADS & CABLES

Phoenix supply connecting cables in any con-figuration, call sales for a complete list and prices.

Midi-Midi 2m.....£3.99
Midi-Midi 3m.....£4.99
Midi-Midi 5m.....£5.99
Amiga-Scart.....£9.99
*Amiga-RGB.....£9.99
Joystick ext.....£4.99
Joystick splitte.....£4.99
*Serial/Modem.....£9.99
Printer 1.8m.....£5.99
Printer 2.0m HQ.....£7.99

DISKS

Don't confuse these quality disks with others currently available. 3.5" 100% certified error free 70% clip. All disks include FREE high quality Phoenix labels.

10	£4.99	200	£72.99
25	£12.99	500	£174.99
50	£22.99	750	£259.99
100	£39.99	1000	£339.99

TDK Branded disks- High performance media from the experts-box 10 with labels.

10	£5.99	100	£52.99
50	£26.99	500	£249.99

1000 Phoenix Disk Labels.....£9.99

SOFTWARE

WORD PROCESSING / DTP
Kindwords 3.....£36.99
Interword.....£29.99
Final Copy 2..... NEW! £66.99
Professional Page 3..... NEW! £129.99
Saxon Publisher..... NEW! £189.99
Pagestream v2.2.....£126.99
Pagestream Font pack 1.....£44.99
Page Setter 2.....£46.99
Pen Pal 1.4.....£57.99
Prowrite v3.X.....£57.99
Quickwrite.....£36.99
Transwrite.....£29.99
Wordworth.....£79.99
Hot Links.....£52.99

INTEGRATED PACKAGES
Gold Disc Office.....£59.99
Mini Office..... NEW! £39.99

CAD & DRAWING
Design Works.....£53.99
Professional Draw 3..... SPECIAL OFFER £79.99
Intro CAD Plus.....£74.99
X CAD 2000.....£99.99
X CAD 3000.....£269.99

UTILITIES
A-Talk 3.....£44.99
Cross Dos v5 *(inc, Cross PC Emulator)*.....£29.99
Cross Dos.....£22.99
Diskmaster 2.....£43.99
Dos 2 Dos.....£29.99
Opus Directory.....£29.99
Xcopy.....£36.99
Quarter Back.....£45.99
Quarter Back Tools Vs 5.....£49.99

DATABASE
Superbase Pro 4.....£164.99
Superbase Pers 2..... NOW ONLY £39.99

VIDEO PRODUCTION/TITLING
SCALA 500.....£79.99
SCALA Professional.....£219.99
Big Alternative Scroller.....£35.99
Broadcast Titler 2.....£179.99
Font Pack 1 for Broadcast Titler 2.....£88.99
Font Enhancer for Broadcast Titler 2...£88.99
Pro Video Post.....£168.99
TV Show Pro.....£51.99
TV Text Pro.....£84.99

FRACTAL AND SPECIAL FX
Race Trace..... NEW! £93.99
Deluxe Paint 4.....£63.99
Deluxe Video 3.....£71.99
Image Finder.....£44.99
Pixmate.....£43.99
Scenery Animator.....£62.99
Vista.....£43.99
Pro Vista.....£71.99

ANIMATION
Take 2.....£42.99
Image Master.....£129.99
3-D Images.....£36.99
Amos.....£36.99
Amos Compiler.....£21.99
Amos 3D.....£25.99
Easy Amos.....£22.99
Deluxe Paint 4.....£63.99
Director v2.....£71.99
Imagine v2..... NOW ONLY £189.99
Map master for Imagine.....£59.99
Presentation Master.....£169.99
Surface Master for Imagine.....£29.99
Showmaker.....£142.99
Video Director.....£107.99

PRESENTATION & SLIDE SHOW
Can Do v1.6..... NEW! £72.99
Art Department Pro v.1.....£143.99
Art Department Pro Conv. Kit.....£57.99
Can Do It V.I.G.....£94.99
Hyper Book.....£44.99

ACCOUNTING
Personal Finance..... NEW! £29.99
Arena Accounts.....£83.99
Home Accounts 2.....£39.99
System 3.....£43.99
Cashbook Combo.....£57.99

MICE & TRACKBALLS

NAKSHA Upgrade Mouse.....£24.99
(With Operation Stealth, mat & holder)
Roctec Mouse.....£13.99

GOLDEN IMAGE
Mega Mouse.....£12.99
(Has just recieved 90% Amiga Format Gold Award)
Optical Mouse.....£29.99
High precision, pointing device.
Crystal Trackball.....£37.99
Infrared-Cordless-Mouse... NEW! £47.99
(Rechargeable top selling innovation.)
Optical Pen Mouse..... NEW! £39.99
High Quality 8mm mouse Mats.....£3.99

SCANNERS

Powerful image processing tools for the office or the home enviroment.

POWER-Features include: 100-400 dpi • 64-Greyscales Thruport to printer • **FREE** Editing software.
Power Scanner v2.0.....£94.99
Power Scanner Colour.....£234.99

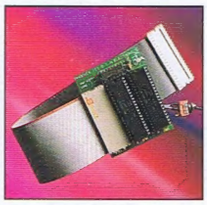
GOLDEN IMAGE-Hand Scanner Series
Features: 400 dpi • 256-Greyscale • Touch up and Merge it software.
AlfaScan.....£124.99
AlfaScan Plus.....£149.99
AlfaScan OCR *(inc OCR Software)*.....£279.99

EPSON GT-6000 FLAT BED FULL COLOUR SCANNER-Plug into Amiga parallel port, 600 d.p.i. resoloution, up to 16 million colours
Phoenix Price.....£989.00

ASDG-SOFTWARE-Scanning software comes in two forms, integrated into art development as a new module or used as a stand-alone programme.
Phoenix Price.....£109.99

PHOENIX Kickstart ROM Sharer

Because some older games and business software will not run on the new Kickstart 2.04 ROM. PHOENIX have designed a sharer for both ROM chip sets. Switchable between 1.3 and 2.04 you can get all the benefits of the latest A500 Plus without the drawback of losing all your old software. Fits any Amiga 500/1500/2000.



*Kickstart ROM Sharer £24.99
*Kickstart Rev 3/5 ROM Sharer.....£27.99
*Keyboard Switchable ROM Sharer...£34.99
Kickstart 1.3 ROM.....£29.99
Kickstart 2.04 ROM.....£34.99
*(ROM Chips not included)

AMIGA RELEASE 2

Now Only..
£79.99

The popular upgrade kit for 1.2 / 1.3 owners from Commodore is in stock and selling fast!

CALL OUR ORDER HOTLINE NOW!.....

- **Free Fast UK delivery**
- **Next-day Courier only £4.50**
- **Same-day despatch on Credit card orders/bankers draft/building society cheque/Postal orders**
- **All prices include VAT**

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Tel: 0532 311932

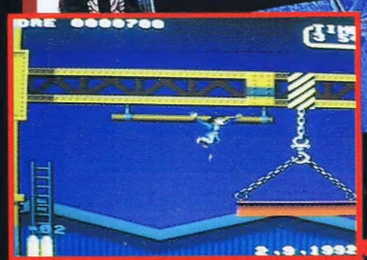
PHOENIX, UNIT 19, ARMLEY PARK COURT, STANNINGLEY ROAD, LEEDS LS12 2AE

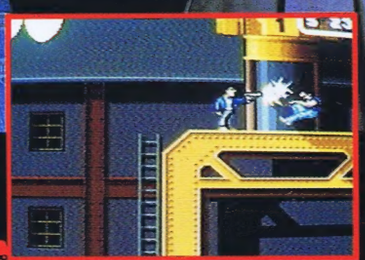
Please make cheques payable to PHOENIX. Allow 5 working days for cheque clearance. Call our despatch line for details on our full range of delivery options both in the UK and overseas. BFPO welcome. OPENING TIMES: Mon-Sat 9.00am-6.00pm E&O.E.

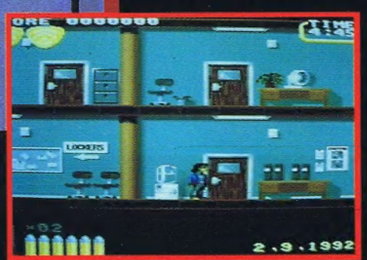
LETHAL WEAPON

TWO COPS - BOTH LETHAL

A multi-level shoot 'em up based on aspects of all three LETHAL WEAPON movies. You can choose to be either one of the two high fire-power cops... each having his individual strengths - and weaknesses! There are many missions to complete including the rescue of a kidnapped girl, the persuit and arrest of drugs runners, finding and arresting a police murderer, plus many more. You choose the level to suit your objectives within the game-play.







IT'S MEAN FAST AND... LETHAL!

ATARI ST
AMIGA
IBM PC & COMPATIBLES

COMMODORE CARTRIDGE

ocean

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